

In This Issue—*Selling a Car a Day to Farmers*

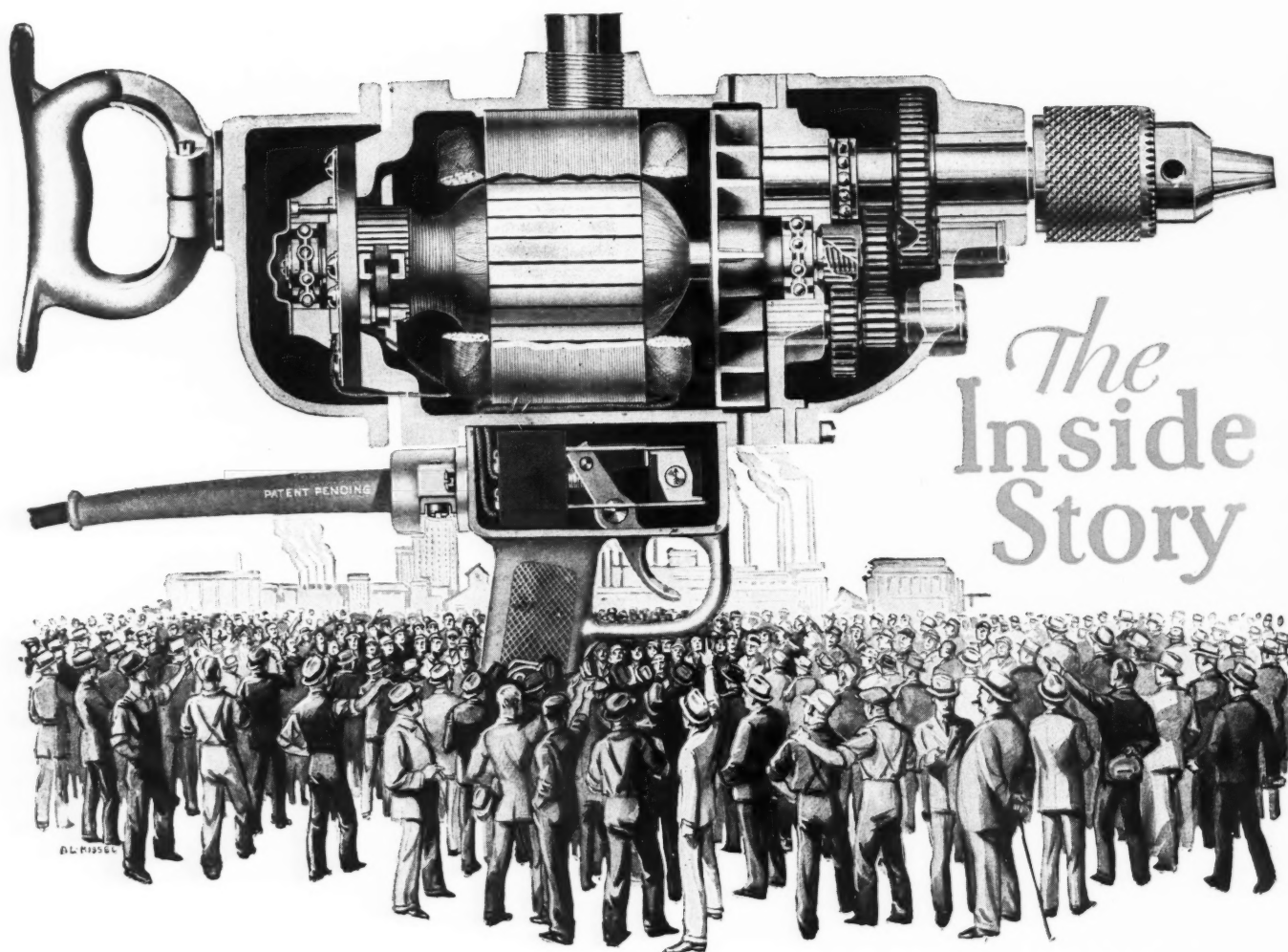
# MOTOR AGE

Vol. XLVIII  
Number 8

PUBLISHED WEEKLY AT 5 SOUTH WABASH AVENUE  
CHICAGO, AUGUST 20, 1925

Thirty-five Cents a Copy  
Three Dollars a Year

**Watch Jordan  
in September**



Of course it is interesting to know the construction of the Black & Decker Heavy Duty Portable Electric Drill.

The commutator end cover, to which the combination handle is attached, is entirely separate from the motor bearing support, so that if excessive pressure applied by means of a feed screw should distort the end cover, there would be no misalignment of the motor bearing.

The motor runs on ball bearings and the heat-treated gears run in grease like an automobile transmission.

Circulation of air around the outside of the field coil, as well as through the gap (obtained by the use of the hexagonal shaped motor case), means a cooler motor and consequently longer life.

The electric cable is carried through a specially designed tapering molded rubber cord protector, which is clamped to the Drill by a miniature vise, relieving all strain from the copper conductors inside. These con-

ductors are attached to a switch terminal block by means of terminal screws, making it possible to renew cable easily without soldering.

The detail of the "Pistol Grip and Trigger Switch" is a story in itself. Without going into elaborate detail, this very important feature eliminates the use of a multiplicity of small parts and consists merely of a very large, substantial rotating contact block, operating between two contact blades, which are themselves the springs that snap the circuit open or closed.

The foregoing is only a part of the INSIDE STORY because

after all it would require years of experience in the use and design of Portable Electric Drills to enable the average man to make a choice on the basis of design only.

The satisfaction of hundreds of thousands of users, many of which have been convinced only after rigorous competitive tests made by experienced Engineers, means

more than blue prints and a set of specifications.

As a matter of fact the one thing which more than anything else justifies us in claiming superiority is the fact that more people prefer the Black & Decker make than any other, as is evidenced by the fact that there are more of them sold each year than any other make.

You can secure BLACK & DECKER Portable Electric Drills, Electric Screw Drivers, Electric Socket Wrenches, Electric Tappers and Electric Grinders from the leading Mill Supply, Machinery, Plumbing, Sheet Metal, Automotive and Electrical Supply Houses.

**The BLACK & DECKER MFG. CO., Towson, Maryland, U. S. A.**

Canadian Factory—Lyman Tube Bldg., Montreal, P. Q.

Branch Offices with Service Stations in

BOSTON	NEW YORK	SAN FRANCISCO	ATLANTA	DETROIT	BALTIMORE
BUFFALO	PHILADELPHIA	ST. LOUIS	DALLAS	CHICAGO	MINNEAPOLIS
KANSAS CITY		CLEVELAND	MONTREAL	TORONTO	

# BLACK & DECKER

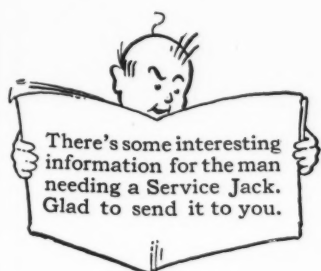
*"With the Pistol Grip and Trigger Switch"*





# WEAVER

## Hi-Lift Jack



**It speeds up the tough jobs  
and makes them show a profit**

The tough, back-breaking, hard-to-get-at jobs underneath a car are licked in half the time with a Weaver Hi-Lift Jack.

It elevates the car so that you can work more easily on its lower and under portions—brings the car up where you see what you're doing, and do it quicker.

Nothing like it for lifting weight off springs when replacing broken shackle bolts or spring leaves, installing or adjusting shock absorbers or any other below-the-knees job.

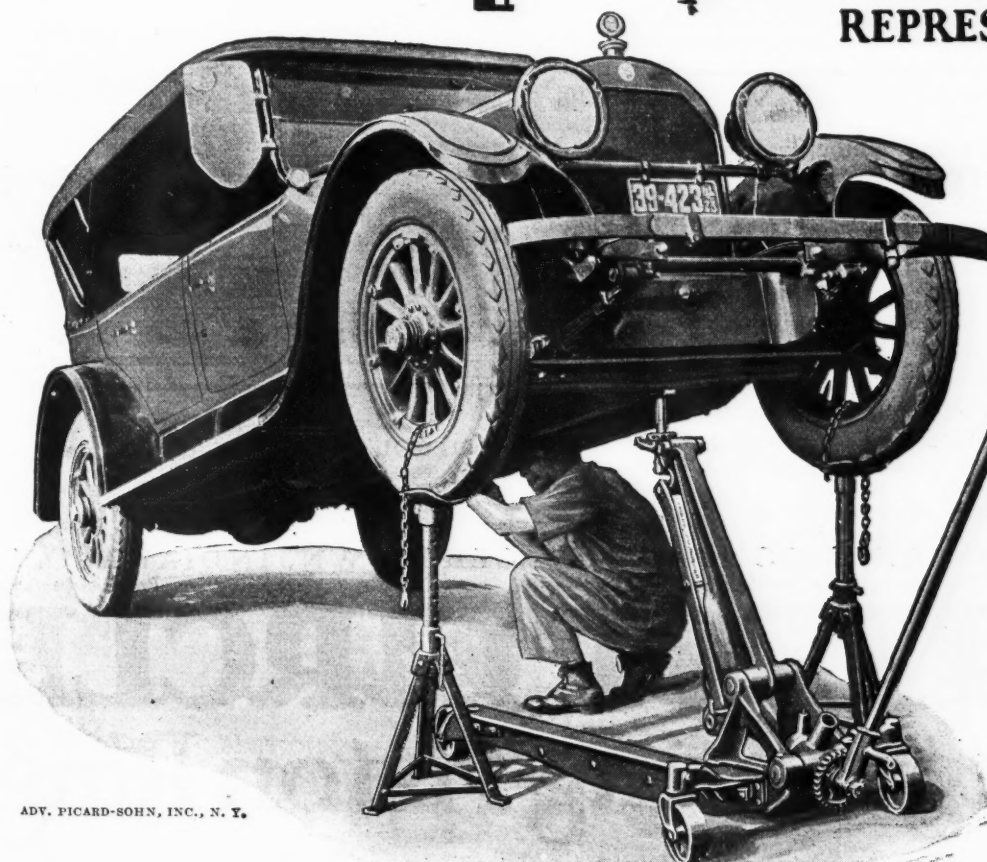
Weaver Safety Stands hold the car at a convenient height for repairs and release the Jack for another job.

You'll find new uses for this equipment every day, uses that turn labor losses into profit.

**Weaver Manufacturing Co.**  
**Springfield, Illinois, U. S. A.**

Weaver Canadian Company, Ltd., Chatham, Ont.

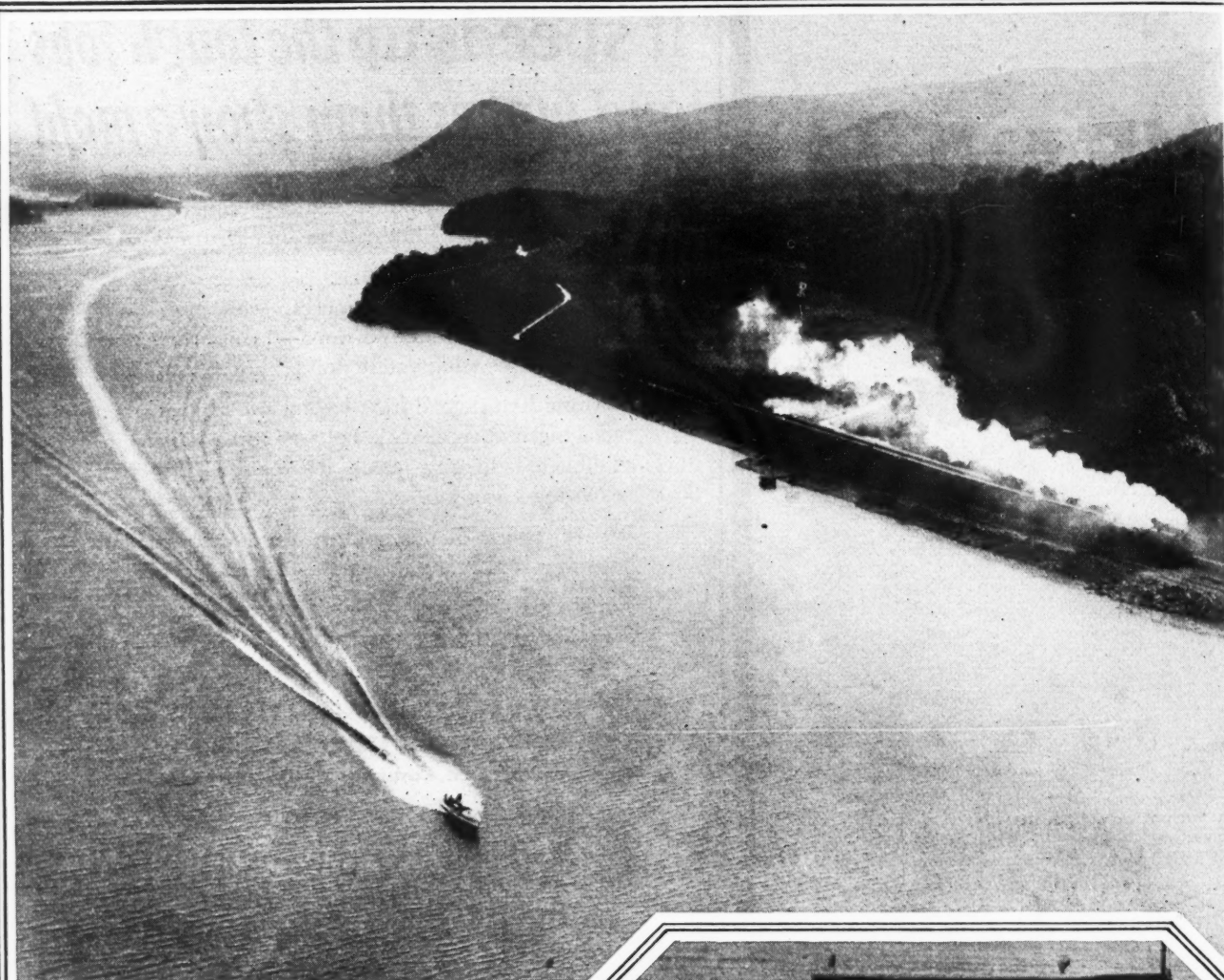
*Your jobber's salesman*  
**IS WEAVER'S  
REPRESENTATIVE**  
*~ ask him*



Capacity  
8000 Pounds

Range of Lift  
6 to 40½ inches

ADV. PICARD-SOHN, INC., N. Y.



**P**ERFECT CIRCLES scored another victory when the Baby Gar IV beat the time of the Twentieth Century Limited in a spectacular run from Albany to New York. All Gar Wood engines are equipped with **PERFECT CIRCLE Oil-Regulating** rings—the rings that are almost universally used wherever exceptional motor performance is desired. Winner of every major automobile race for four years. Factory equipment in more than 140 motor cars, trucks and busses. The most profitable replacement ring.



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Patented March 29, 1910—May 2, 1922

**OIL-REGULATING TYPE, 60c and up**  
(One to a Piston)

**COMPRESSION TYPE, 30c and up**

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J. H. Teetor, President

Export Sales Department, 549 West Washington Street, Chicago, Ill.

C. N. Teetor, Vice-Pres. and Gen. Mgr.

# PERFECT CIRCLE

## Oil-Regulating Piston Rings

For valuable piston ring data fill in name and address on margin. Indicate whether Repairman ☐ Car Dealer ☐ or Supply Store ☐ Mail today.



# MOTOR AGE

Reg. U. S. Pat. Office

VOL. XLVIII

No. 8

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 TOM WILDER, Architectural Editor  
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 Detroit  
 M. W. BAKER, Ass't. News Editor

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Subscriptions accepted only from the Automotive Trade  
 Entered as Second Class Matter, Sept. 19, 1899, at the Post Office at  
 Chicago, Ill., under Act of March 6, 1879.

# One STORM HONE

will do all  
your honing



Did you ever stop to  
think what you are getting  
in a Storm Hone for  
\$35.00?

It enables you to do any  
and all sizes, from 2 3/4"  
up to 8". This will take  
care of all the automotive  
and tractor cylinders now  
in use.

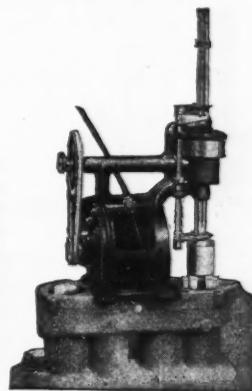
The Storm Hone is built  
strong, heavy and self-  
centering. It is equipped  
with large stones 1" wide  
and 3/4" thick, which will  
easily out-last two or three  
sets of 1/2" stones. Extra  
stones \$2.00 per set.

One single spring is used that exerts equal pressure  
against each stone for all diameters. The hone is in-  
stantly adjusted to any size cylinder, and will correct  
all cylinder wear that is practical to correct by honing.

If a cylinder is worn out-of-square by bent connect-  
ing rod or tilted piston, it cannot be corrected by the  
honing method. Even though it may be finished  
straight and round, the cylinder will still remain out-  
of-square with the crank shaft. For information on  
how to correct all kinds of cylinder wear, write for our  
booklet "FACTS." It's free.

## Storm Automatic Honing Machine

The Storm Automatic Honing Ma-  
chine is the ideal equipment for  
operating the Storm Hone. It is pro-  
vided with an automatic feed which  
feeds the Hone up and down in the  
cylinder at an even rate. Produces  
a "Mirror Like" and "Gun Barrel"  
finish. The self-centering action of  
the hone is strong enough to hold  
the machine without clamping the  
block.



# STORM

MANUFACTURING COMPANY, INC.

406-A Sixth Ave. So.

MINNEAPOLIS,

MINN.



## Uniting Two Well-Known Trade Marks

IT is with great pleasure that we announce our purchase of the business of the Ashland Mfg. Co. of Ashland, Ohio, manufacturers of the well-known Eureka line of pumps and jacks.

The Eureka is a substantial, well-built, fairly-priced line and one that has enjoyed a steady sale for many years.

We will put behind the Eureka line the same

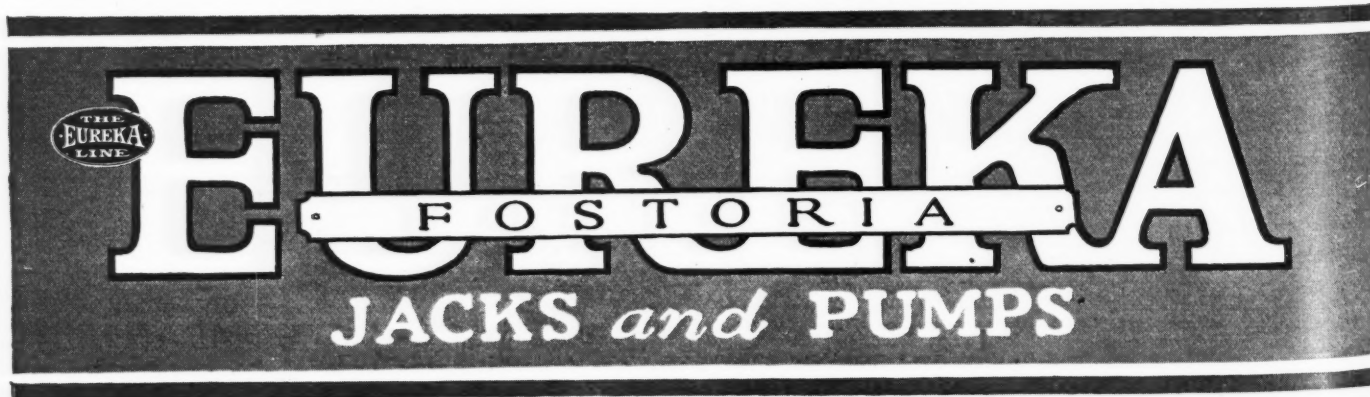
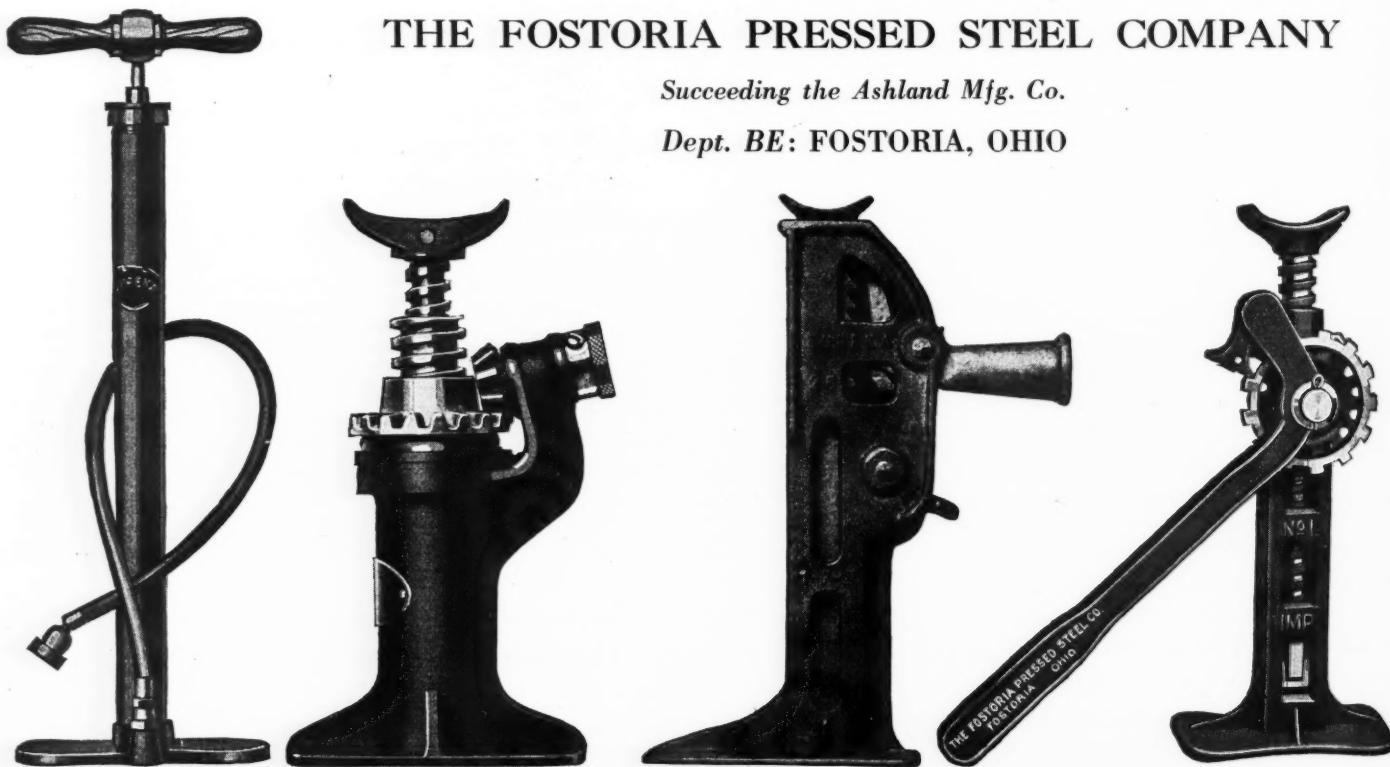
quality ideals, the same manufacturing facilities, the same square deal merchandising policy that have meant bigger profits for all who are selling Fostoria Fenders.

The good friends of the old Eureka line as well as all other jobbers and dealers who are interested in a good substantial line of pumps and jacks are invited to write us for prices and discounts.

### THE FOSTORIA PRESSED STEEL COMPANY

*Succeeding the Ashland Mfg. Co.*

*Dept. BE: FOSTORIA, OHIO*







*This symbol means that Studebaker prices do not  
include the profits of outside body-makers*

Studebaker has done much toward solving the so-called used car problem for its dealers. That solution is the specific pledge to used car buyers which has been adopted by Studebaker dealers. It emanated from and was extensively advertised by The Studebaker Corporation of America. This enhances the value of the Studebaker franchise.

THE STUDEBAKER CORPORATION  
OF AMERICA  
SOUTH BEND, INDIANA

T H I S   I S   A   S T U D E B A K E R   Y E A R

**THE CAR THAT MADE**  
**STUTZ**  
**GOOD IN A DAY**

**O**VER TWO MILLION cars and trucks manufactured in the first six months of 1925.

Yet I know a man who sold only 24 out of this two million and made a good profit.

Number of sales **DO NOT** give the index of profits. Think this over.

**FREDRICK E. MOSKOVICS**  
President  
**STUTZ MOTOR CAR COMPANY**  
OF AMERICA, INC.  
Indianapolis, Indiana

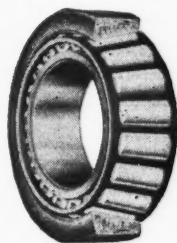
# STUTZ

them eat many

in a general conversation at the show M L Bridgman said concerning dashboards on vehicles "When the first railroad train appeared the coaches were upon the plan of the old time stage-coach and not at all like the present magnificent traveling cars. In future the motor vehicle, which today occupies a position midway between the cycle trade and the carriage trade, will have its own distinctive form and will be no more like the carriage of today in appearance than is the present railroad carriage like the first of their kind turned out. The dashboard is unnecessary."

*An interview  
of February 1, 1900*

# The Dashboard is Unnecessary!



Some of the veteran dealers of 1925 were among the few people who saw the future of the automobile in 1900.

Dashboards have gone, windshields have come, cylinders have multiplied. Whatever direction progress has taken, however, it has stuck very closely to Timken Tapered Roller Bearings.

They have been like the straight string around which the vine climbs.

Right now even, Timkens are going on up faster than car production itself is going.

It can be nothing but the cumulative effect of having 125,000,000 Timken Bearings in successful use; of supplying 83% of all motor vehicle makers; of producing the best possible bearings always.

Even so it has been worthwhile for Timken to tell people about it in Timken advertising. Surely it must be worthwhile for you to mention Timkens.

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

## TIMKEN *Tapered Roller* BEARINGS



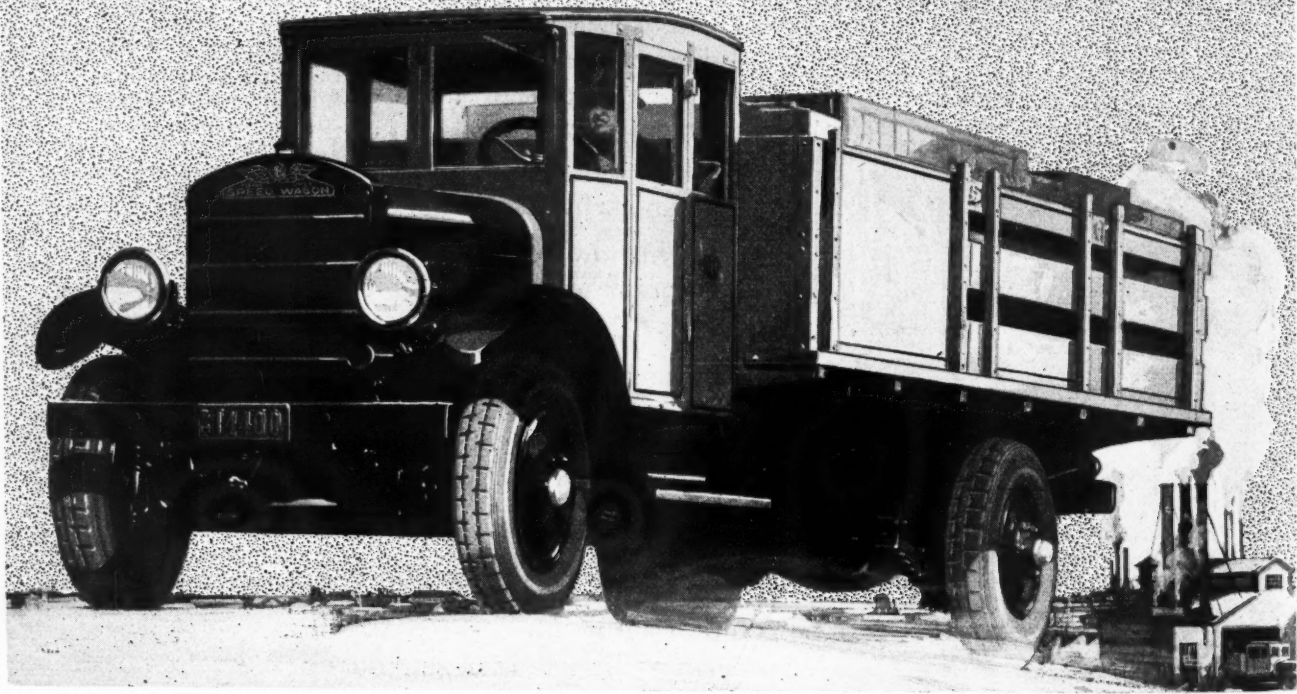
# HEAVY SPEED WAGON DUTY

## CAPACITY TWO TONS

## PRICE \$1985

High-powered, six-cylinder engine. Double frame chassis. Spiral bevel gear drive. Pneumatic cord tires. Disc steel wheels. A Reo entirety.

Chassis—\$1985—at Lansing



**REO MOTOR CAR COMPANY** LANSING, MICHIGAN



# MOTOR AGE

Vol. XLVIII

Chicago, August 20, 1925

No. 8

## *Summary and Index of Important Events in* **This Week's Automotive News**

*Detailed Stories from MOTOR AGE Staff Writers and Special  
Correspondents Appear in News Section Beginning on Page 32*

**W**AVE of price-cutting greatly stimulates automobile business. Production and sales are at highest levels of the year and are far ahead of same time a year ago.

Philippines seen by Secretary Hoover as possible future source of U. S. rubber. Page 34.

Treasury amends excise tax regulations regarding levies on automobile accessories and parts. Page 34.

Plans for American automobile show in Paris are now definitely abandoned. Page 33.

Additional space is provided for annual automobile salon in New York, allowing entry of 34 more cars this year. Page 35.

Contracts mailed for seventh annual exhibit of Automotive Equipment Association, to be held in Coliseum in Chicago, November 9 to 14. Page 43.

Ford completes purchase of all assets of Stout Metal Airplane Co. No quantity production is planned as yet, however. Page 35.

System of national roads touching all state capitals is planned by joint board of interstate highways. Page 42.

National convention of American Chemical Society is told that U. S. Army has new type of truck engine designed to burn ethyl gasoline, with greater power at less fuel consumption. Page 37.

Report of American Petroleum Institute denies belief in danger of exhaustion of supply of oil, declaring unexplored stores sufficient for many years. Page 38.

Studebaker prices reduced on all three lines as result of huge increase in sales volume. Page 38.

Peerless Motor Car Co. turns loss appearing at end of first quarter to substantial gain at end of first six months. Page 37.

Willys-Overland sets record for production during first six months of 1925 with 109,394 automobiles, or within 40,000 of the entire 1924 output. Page 39.

Federal reserve report declares entire automotive industry is showing greater activity than was evident a year ago. Page 36.

July sets another record for business done by Apperson Automobile Company, when sales volume shows 225 per cent increase over January. Page 36.

General Motors denies reports that it plans to produce engine to use "miracle fuel." Page 33.

Building of Mexican road system to begin at once under direction of American engineer. Page 32.

Rickenbacker Motor Car Co. ships 6,100 automobiles during the first half of 1925, compared with 5,412 for the same period of 1924. Page 39.

Peerless announces price reductions ranging from \$10 to \$300 on both its six and eight lines. Page 35.

Paige-Detroit sales and net income for first six months of 1925 set record in company's history. Page 43.

*In Next Week's Issue—What About Radio?*

# THEY SELL TO FARMERS



W. H. Taylor

**A**VERAGE monthly sales for a full year of 19 new Willys-Knight and Overland cars, and 16 used cars, by a dealer located in a town of 6,000 people, and with a total population of less than 32,000 in the entire county.

Such is the achievement of the Overland Motor Sales Company of Oxnard, California, owned and operated by W. H. Taylor and C. S. Bobo, two of the leading small town automotive merchants in the West. Oxnard is a typical small town. It has no boom features. Nor does it have any unusual abundance of wealth-producing factors. Citrus fruit growing and general agriculture comprise the major productive activities of the community. These partners, when starting two years ago to build up a healthy permanent volume of business, had a territory to work that held approximately the same opportunities as presented to the average small town automotive merchant.

Scientific analysis of the territory, efficient cataloging of prospects, and systematic direction of sales activity, explains the uniform merchandising success of these Southern California dealers.

A year and a half ago the Oxnard dealers took a complete census of every automobile in the entire territory surrounding that little city. The census called for a description of the make and model of each car, and also

## Scientific Analysis of Territory and Thorough Cataloging of Prospects Marks Methodical Start of Successful Campaign by California Dealers.

By ROY ALDEN

included the occupation of the owner. If a farmer, the crops to which his acreage was planted were described. Lodge affiliations and hobbies were also noted when this information was obtainable.

### No Selling During Survey

"In undertaking the survey," explains Mr. Taylor, "we assigned salesmen to cover certain territories. They were instructed only to gather the desired information and not to make any attempt to sell or to directly ascertain whether a prospect was in the market for a car. The census takers would frankly inform those called upon that they represented our firm and explained the object of their questions was the preparation of a map and accompanying data that would show the development in the use of the automobile in this county. Incidentally, we did prepare the map which is still in use in our sales room. This map shows the location of every car owned in our territory.

"We met with virtually no resistance in making our survey, which took nearly a month to complete. We arbitrarily set aside three hours a day when each salesman had to confine all his activities to this work. After our census takers had called on every farmer and every resident in our entire selling area and obtained the information sought, we then redistributed the territories and started our actual prospect finding campaign. By redistributing, I mean that the salesman who originally took the census in one district was not sent back into the same district. Rather, he was given another district where another salesman had worked on the census. It is quite apparent that it would be difficult in many cases for a salesman to get a proper audience when he originally presented himself solely as an automobile census taker, and then reappeared a few days or a week or two later with a direct selling mission. At least it was our experience that the switch in districts was the better plan.

"We did not consider the census as a direct canvass for prospects. Of course, it was indirectly, but it was designed to provide a basis for subsequent effort in this direction. In entering upon the second phase of our territorial analysis, our salesmen, working different districts as explained, made second calls on every resident.



# A Car A Day

"After this thorough canvass for prospects, we were able to systematically catalog our prospects, because we had full information on every car owner or prospective owner in our territory that had been personally obtained.

"On the second call of a salesman, we were able to tell whether the person visited was an immediate or future prospect for one of the cars we have for sale, or whether he should be crossed off our lists.

## Weeding Out Process

"The prospects were weeded out from the non-prospects, individual cards being prepared for the former, and the latter listed alphabetically on a list for reference purposes. All information of value was written on the prospect cards. For instance, one farmer-prospect may have most of his acreage planted to walnuts and he will be selling his crop in the fall, when he will receive in cash the major returns for his year's labors. If he can be considered a prospect we then know from this information when he may be expected to be ready for the purchase of a new car. We also know when the time approaches for our salesman to cultivate him at regular intervals. If the prices are good on walnuts, our salesmen will emphasize in a casual way during his calls the excellent position of the walnut market. Building optimism, not directly or bluntly, but very casually, is an important qualification for successful selling with farmers.

"It required some investment and it took considerable time to make our census and prospect canvass, but it gave us a complete knowledge of our territory and armed us with the necessary information to properly direct our sales activity. We read a lot these days in the national automotive trade journals about the importance of proper sales direction—that the main contributing reason in many failures can be traced to the inefficiency of sales activity due to lack of direction. We believe that this matter of efficient sales direction is as important in the smaller



C. S. Bobo

community as it is in the large city. In our territory we cover a lot of ground, as far as 35 miles in some directions.

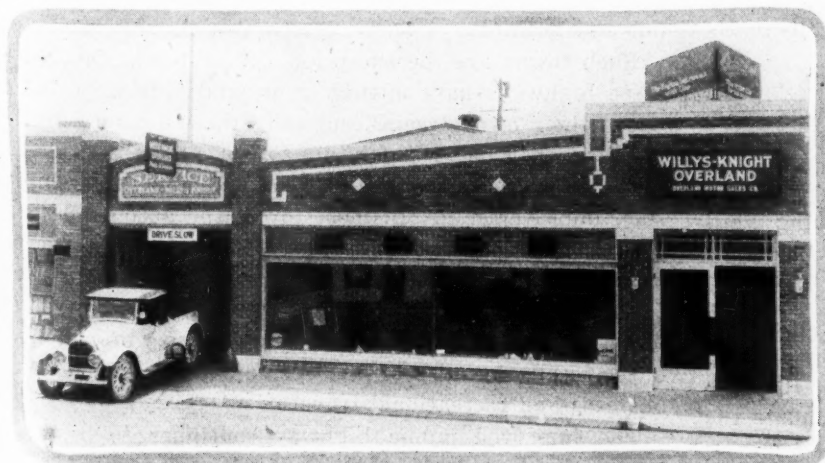
"If we did not have our prospects cataloged, but allowed our salesmen to operate largely 'on their own'—self-directed, so to speak—we could not expect to make the sales that we do. As it is, we scan the prospects a salesman has listed for the day. From the information gained from our census, we know all that should be known about the prospect, and we can discuss the calls with the salesmen. If there is anything the salesman should know about the market for certain products, such as beans, beets, lemons, apricots, walnuts, or other products that a prospect grows, he is given that information.

"Most of our business is with the farmers and we make it a point to keep thoroughly posted on all news and market information of interest to farmers, so our salesmen can talk on subjects that are close to them.

"When a salesman has ready access to full advance information on a prospect, it is only natural that he is going to make a much better presentation of his merchandise than he would if he were uninformed.

"As our territory is no different in important particulars from any other small town territory, I believe any small town dealer will find an investment in a thorough survey of his sales area will bring him substantial results. It should be borne in mind, however, that records such as we keep would soon lose their usefulness if they were not kept up to date. We check all sales from the registrations and

(Continued on page 19)



Home of the Overland Motor Sales Co., Oxnard, Cal.

# As the Editor Sees the Automobile Business

*Random Observations on Sales and Service*

By SAM SHELTON

**P**ROGRESS by the State of Missouri in the construction of highways is about the most encouraging development the automotive industry can point to this summer. Paved roads across the Show-Me state will boost transcontinental motor travel as nothing else can. The gateway to the Southwest and much of the West lies through Missouri. St. Louis and Kansas City are the keys. These two great metropolitan cities soon will be connected by two paved highways. And St. Louis already, thanks to Illinois, is at the terminal of several boulevards connecting with all points on the Atlantic Coast from Washington northward.

Striking southwest from Chicago I found it an easy matter this summer to penetrate the Missouri Ozarks as far as Springfield in two days of fairly diligent driving. St. Louis is easily made between an early breakfast and the evening dinner. About the same time is required for the somewhat shorter trip from St. Louis to Springfield if the road is dry, as I found it.

But not much longer will Missouri mud be the terror of transcontinental tourists. While I was in Missouri the State opened a new stretch of about 10 miles of modern concrete road in Webster County on the crest of the Ozarks. This is part of State Highway No. 14 leading from St. Louis to Springfield and Joplin and thence to the great Southwest and on to the Pacific Coast by way of El Paso.

On Highway No. 17 leading north from Cabool to Rolla I found a modern gravel road under construction. After grading and ditching was done earth shoulders were thrown up on either side. The space of about 30 feet between the shoulders was being filled to the depth of a foot or more with creek gravel. It is hard driving while loose but a wonderful road after it is packed. Between Rolla and Lebanon on Highway No. 14 is a wonderful stretch of completed gravel road.

But Missouri's road building enterprise is not confined to these highways leading southwest. In fact the cross-state highways connecting St. Louis and Kansas City are being pushed with great rapidity. Plans contemplate the completion of one of those, with concrete surface practically all the way, within a year, and the other will be finished soon thereafter.

This highway activity is bringing about an awakening in the automotive trade in Missouri and other Mississippi Valley states. I have noticed that where paved highways go an improved automotive trade soon follows. Paved roads tend to lift up the motor car sales and maintenance industry and put it on more progressive and profitable basis than prevails where muddy and neglected roads are

the daily trial of those who strive to make the best of modern transportation methods.

Unfortunately the business men of some towns through which state highways run are not appreciative enough of what the state is doing for them to cooperate to the extent of improving the city streets to make them somewhere near as good as the state roads. The trade of tourists may not mean anything to such business men, but it is certain that most motor car travelers will not spend any more than they have to in towns that offer them the discourtesy of rough, muddy or dusty, unpaved streets over the route of the state roads. Between Chicago and St. Louis are two such unappreciative towns that I would not spend a nickel in if I could avoid it. But their streets are so rough that unless one drives cautiously he is likely to break a spring or blow out a tire and thus be

compelled to patronize business men who get all they can but give nothing.

Such towns are the exception. Most towns favored by state highways have enough pride and enterprise to improve their own streets, especially those followed by the tourists, on a par with the highways. Progressive automobile dealers can well afford to take the leadership in such improvements. In most towns the automobile dealers and garagemen are among the first to recognize the advantages that come to them from being on the route of state highways. This advantage is due not merely to tourist travel, but also to the increased use of motor vehicles locally because of the splendid roads provided for business and recreational travel.

The improved public highway continues to be, as it has always been, the world's greatest salesman of motor vehicles.

## COMMONSENSE!

By

JAMES EDWARD HUNGERFORD

*He wasn't an ANGEL, and sprouted no wings,  
Nor was he a "hard-slugging he-man;"  
He lived in a world of "just COMMONPLACE things,"*

*And wrought no more wonders than WE can!  
He USED what he had—just his plain COMMON-SENSE,  
And HONESTY, "GET-UP," and HUSTLE,  
And that's HOW he hurdled the big SUCCESS fence,  
And landed on TOP, in the tussle!*

*Just one of those fellows who laugh at defeat,  
And nothing could "faze" him, or "floor" him;  
Whatever he tackled, he wouldn't be beat—  
Dame Fortune, she couldn't ignore him!  
He stayed on the job when most men would have quit,  
And seasoned himself to "rough-faring,"  
And proved he was "GAME"—a "go-getter" with GRIT,  
Who wouldn't be DOWNED by despairing!*

*He suffered HIS share in the world of "hard knocks,"  
And sometimes succumbed in the scuffle;  
Oftimes he was shipwrecked, and cast "on the rocks,"  
And beaten, and "lost in the shuffle;"  
But always he'd wrest himself out of the wreck—  
To hardships he never would knuckle;  
Though trouble submerged him clear up to the neck,  
He'd grin, and COME BACK, with a chuckle!*



# Direction of American Car Design Reflected in New Models

*Study of 1926 Offerings Shows Tendencies Toward Greater Operation Economies as Well as Improved Efficiency and Attractiveness*

By P. M. HELDT

**N**OW that announcements of new models have been made by about a dozen companies prominent in the industry, it is possible to form an idea as to the lines along which automobile design is progressing. Some of the changes made naturally are of a minor character and incidental to other more important alterations, but nevertheless certain definite tendencies are discernible.

There are apparently four factors that have influenced the changes which have been made, or at least a great many of them.

The first is the prevailing downward trend of prices, particularly at certain ranges in the price scale, which has dictated economy and the elimination of unnecessarily expensive features.

The second is the demand for reduced servicing cost, particularly during the first few years of a car's life.

This is evidently the factor responsible for the rather widespread adoption of air cleaners and oil cleaners, of improved oiling systems and other features tending to prevent premature wear of certain parts.

A third factor has been the desire to improve the appearance of the cars, it being realized that the appeal of the outline and of the color scheme has great weight in swaying the decision of a customer who may be wavering between several competing makes.

On many cars the radiator shell design has been revised with a view to strengthening this appeal, and many new color schemes and features of body style have been evolved.

On a good many cars also the horsepower output of the engines has been increased, either by refinements in design or by increasing the piston displacement. The object in view in thus increasing the available horsepower is evidently to increase the possible acceleration or what is commonly referred to as the "performance."

There is certainly no evidence that American designers are following the lead of their European confreres and cutting down the piston displacement to save on taxes and fuel. Buick, Chrysler and Rickenbacker have increased the piston displacement of their engines, Buick of both models, while a number of other makers have endeavored to increase the output by increasing the valve opening area, enlarging the carburetor size, smoothening and straightening the inlet passage and lightening the reciprocating parts.

Torsional vibration of crankshafts seems to be still a source of considerable trouble, if one may judge from the fact that in a number of instances the crankshaft diameter has been materially increased, in the Chrysler, for instance, from  $1\frac{7}{8}$  to  $2\frac{1}{4}$  in., which gives an increase

in torsional strength of 73 per cent, as compared with an area (and presumably in explosion and inertia forces of less than 9 per cent.) In one case a small front flywheel has been added to check torsional vibration while in the case of the Oakland an entirely new type of harmonic balancer has been applied, the exact principle of which has not yet been made public. The general increase in

engine speeds naturally has a tendency to bring the critical speeds of the crankshafts within the operating range of the engines and calls for the use of devices of this kind.

This is the first time in a good many years that important changes have been made in the Cadillac engine and advantage has been taken of the occasion to incorporate in it with a number of features such as the turbulence head which have been worked out on other

Keen merchandising conceptions can be seen in the practices of American passenger car manufacturers as revealed in a study of the new models brought out this year under the stamp of 1926.

While the cars are being made to sell in a highly competitive market and while lower prices tend to emphasize this condition American car producers are not letting down on mechanical efficiency or beauty in body design. On the contrary they continue to go ahead, giving the automobile buyer a bigger dollar's worth than ever before.

General Motors Products.

Since the majority of the General Motors makers have joined the ranks of air cleaner users which previously included Franklin, Chrysler, Rickenbacker and Willys-Knight, the position of that accessory has been signally strengthened, and it will probably not be many years until it will be regular equipment on practically all cars of medium and high grade, at least.

Along with the air cleaner the oil cleaner seems to be gaining in popularity. Of course, for a long time, engines have been provided with oil strainers which were supposed to remove all solid particles from the oil before it entered the pump, but since the straining surface is generally of rather limited area and the oil gets very viscous in cold weather, it was necessary to use rather coarse mesh gauze, which is not very effective in removing the finer particles of gritty material. A system in which the oil is forced through the straining medium by the pressure of the pump, instead of being drawn through, should be by its suction an important improvement.

In clutches the tendency seems to be still toward the single plate type, which can be made with a minimum of spinning weight and therefore facilitates gear shifting. This type of clutch also has advantages from the viewpoints of weight and manufacturing cost.

For a number of years transmissions have been contracting in size, until the gearbox on the average six or eight-in-line is an almost insignificant extension of the crankcase, but it seems that the practical limit in that direction has been reached and perhaps even surpassed, for among the cars of which descriptions have been printed recently there were at least two in which the face widths of the gears have been increased.

(Continued on Page 34)

# Experiences of a Small Shop With Pyroxylin Finishes

*Automobile Dealer in Small Iowa Town Finds Motor Car Painting Profitable Addition to Round Out His Line of Automotive Maintenance*

By B. M. IKERT

**P**AINTING 50 cars a year as a side line in a town of 2,000 people is quite an achievement.

That is precisely what is happening in a small town in Iowa. It is happening largely for two reasons.

First, the automotive dealer about whom this story is written appreciates maintenance on the finish of a motor vehicle is quite as important as overhauling the power plant of such a vehicle—and just as profitable.

Secondly, lacquer finishes, with their ease of application, quick drying characteristics and lasting qualities have caused a right about face in the painting of automobiles and put it within the grasp of every dealer who wants to sell 100 per cent service and maintenance on motor vehicles.

The dealer who is on the road to sell 50 paint jobs this year along with his other repair business is Louis Shuh, Buick representative in Dewitt, Iowa.

Like most dealers in small towns he must sell service and maintenance on all makes of cars, otherwise his shop could not keep busy. To make this possible, his is a well-equipped shop and fitted out to almost any kind of repair job, even to cylinder regrounding.

## *Possibilities in Refinishing Work*

But the interesting part of this dealer's business is he has not confined it to selling motor vehicles and repair work only. He saw the possibilities of selling his customers refinishing work on their cars.

He saw the possibilities of moving his used cars more readily when dressed up in a pleasing combination of color newly applied.

He felt it wrong to tell a customer he could overhaul the engine and rear axle of his car, but that the customer must go elsewhere to have the car repainted.

After all, the finish of a car is something anyone notices long before a piston slap gets too noisy and what appeals to the eye very often can be sold much more readily than an intricate repair job, which is all Greek to the customer.

It's easier to say "Mr. Smith, your car needs repainting," than it is to tell him about the condition of his engine. Mr. Smith does not know as a rule what it means to remove shims from bearings, to install oversize wrist pins, or lap in new rings. But he does know and can see that his car looks shabby and can visualize it in a new coat of paint. That is one reason why dealers like Mr. Shuh have little difficulty in selling paint jobs.

Naturally, it takes more than that to sell the work and keep it sold. Refinishing motor cars, whether done with lacquer or varnish calls for skill and if there is any place where poor workmanship will soon manifest itself it is on a paint job.

A mechanic might get away with a poor job of adjusting a rear axle and hide considerable of his work within the housings of a clutch or axle, but not so with the car painter. His work is always visible for inspection. His materials must be the best, his equipment adequate and he must have a thorough knowledge of the craft.

Hence the first thing Mr. Shuh did after deciding to

add refinishing to his other branches of service and maintenance, was to hire a first class motor car painter.

At the present time very little work is done in the paint shop of Mr. Shuh's establishment, but this is the off season, so to speak. His shop was quite busy last spring and prospects are for a busy season this fall and winter. Mr. Shuh states people in his part of the country do not like to do without their cars for a week or so at this time of the year and consequently he does not look for much refinishing work until this fall. At that time his painter will rejoin the organization.

There is nothing pretentious about the paint shop and the work is done in a rather small room adjoining the main building. However, the room has good facilities for ventilation and the light is all that could be desired. Since he can get along with the services of one painter a small room is adequate for the work. There are two guns for spraying, one used for the undercoats and the other for the finishing coats. In addition there are such fixtures as an air pressure regulator and an air conditioner for removing all traces of oil and moisture from the air line. The air compressor used for the general shop also furnishes the air for the spray guns.

Above all, Mr. Shuh insists on quality work. To this end he takes no chances with the old finish on a car. All of this is removed and the new finish applied from the bare metal up. The shop has found the use of an alkali solution satisfactory for removing the old finish.

In doing this the necessary precautions are taken, of course, to see that all traces of the paint remover are removed from the metal. As has often been said, the preparation of the car for painting, especially with pyroxylin finishes, is the most important operation, as the finished job depends almost entirely upon this preliminary work. Although there are various ways to protect the



Louis Shuh and two of his mechanics.





*Before this year is up the dealer who operates this establishment in a town of 2000 will have repainted 50 cars with pyroxylin finishes*

windows and other parts of a closed car prior to the spraying operations, it seems the application of paper with gummed tape is the most popular. It is used in Mr. Shuh's paint shop.

He carries in stock an ample supply of paint materials and by means of a special chart is able to duplicate practically any color. Cadillac may have a certain gray and Hupmobile a brown, for example, and these Mr. Shuh's shop is able to duplicate exactly. The makers of the paint material supply the necessary instructions to properly mix the materials to secure specified colors. Thus far, Mr. Shuh has found his customers preferring gray-greens and dark colors.

There is probably nothing which detracts so much from an otherwise good paint job on a motor car as dented and rusted hub caps and other parts usually finished in nickel or some other bright metal. Consequently this shop tries so far as possible to sell the car owner a set of new hub caps and similar parts, which, when applied to the newly painted car enhance the effect and in reality make the car appear like a new one. It has been Mr. Shuh's experience that usually a car owner who has his car repainted is not hard to sell on the idea of new hub caps and such defaced parts which the eye readily catches by virtue of contrast with the new finish on the body and wheels.

Probably one of the most outstanding reasons why this dealer is successful in this small Iowa town is because he is a good mechanic aside from a good business man. Although he does not pass himself off as an automobile

painter, he does know how the work ought to be done. He is business man enough to appreciate the fact every car his paint shop turns out is advertising for him and he cannot, therefore, use inferior materials or poor workmanship. Every job must sell the next one.

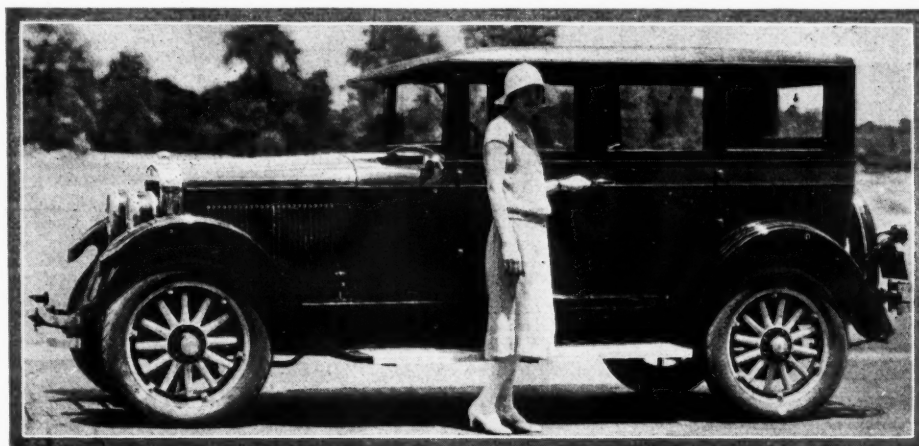
He thinks dealers are overlooking a good bet if they are not refinishing cars in their establishments, and especially used cars they have on the floor. It is not always necessary to take off all the old paint on a used car as some mighty fine jobs have been turned out by shops using the old undercoats.

It is entirely possible for the paint shops in the larger cities to sell their customers a high class job which runs into considerable money, but it is quite a different problem with the dealer in the small town. His customers are different. They are not always so exacting and if they are assured of a reasonably good looking and lasting paint job at moderate cost, that's what they are willing to pay for.

But almost every time a paint shop puts a pyroxylin finish over the old coats, it takes a chance. To be absolutely on the safe side all the old finish should come off. That's why you find men like Mr. Shuh selling their customers on a quality job, rather than on a job about which there is some doubt as to its lasting qualities.

The paint department of Mr. Shuh's establishment rounds out his business. Thus, in addition to being able to sell service and maintenance on car finishes, he also does a general line of machine work, welding, cylinder grinding and storage battery work. Normally he has four mechanics and one painter.

*Gardner Six Anniversary sedan, a four-door model, listing at \$1,595 f. o. b. St. Louis. It is the lowest priced Gardner closed model ever built. Mohair upholstery is used and all windows are of plate glass operated by rotary lifts. Satin finished hardware is used throughout. All instruments, including a gasoline gage and heat indicator, are grouped under a single glass panel on the dash and indirectly lighted*



# Storage Space for 2,000 Cars



*Eighteenth street garage at St. Louis which houses 2,000 cars*

## And Service for Sale at a Profit

**C**OVERING a square block, with 266,000 square feet of floor space, the new Eighteenth Street Garage was recently opened in St. Louis with storage space for 2,000 cars.

But this huge institution is not merely a motor car stable—it is a merchandising institution where extensive service for car owners is sold at a profit.

The building is bounded by Eighteenth, Seventeenth, Chestnut and Pine Streets, and is two blocks from the Union Station and within a few blocks of the downtown business district. It is four stories high on the Eighteenth Street side and two stories high on the Seventeenth Street side where the ground elevation is considerably higher than at Eighteenth Street. A number of stores, including some devoted to automotive merchandise, occupy the front part of the ground floor.

The garage service includes washing and polishing, inflation of tires, and gasoline and oil. Cars stored are always inspected and those found with gasoline tank less than one-fourth full are tagged to call the owner's attention to this condition and to the fact that he can replenish his supply at the filling station as he drives out.

When a car is stored by a traveling salesman or other person for a considerable time the owner is provided with an addressed and stamped postal card with blanks to be filled out to notify the garage when he will call for the car and what he wants done to it. This enables the garage to have the car ready for immediate delivery in condition to start on a long drive.

Storage rates in this garage are 50 cents for overnight and 25 cents for the day hours.

The accessibility to the business district is a strong inducement to those who drive to work to park their cars in this garage during the day. The small amount charged for storage also is a factor which has made for increased profits for the garage.

The proprietors are strong exponents of the doctrine that distinctive service makes for satisfied customers and incidentally increased balances at the bank.

**Your Gasoline Tank Almost Empty**

**18th STREET GARAGE**

I will return about \_\_\_\_\_ P. M. \_\_\_\_\_ 1925

Please have my car ready for me. \_\_\_\_\_ A. M. \_\_\_\_\_

Inflate front tires to \_\_\_\_\_ lbs.

Inflate rear tires to \_\_\_\_\_ lbs.

Wash car \_\_\_\_\_

Wash and polish car \_\_\_\_\_ (Yes) (No)

Fill gasoline tank \_\_\_\_\_ (Yes) (No)

Put oil in crank case \_\_\_\_\_ (Yes) (No)

Claim Check Number \_\_\_\_\_

Scratch out Yes or No

Signed \_\_\_\_\_

*Owner is supplied with this card to mail to notify garage when he will call for his car; the tag is attached to steering wheel of car whose fuel tank is less than one-fourth full!*



# Bring on Your Used Cars!

*Dealers in the Nation's Capital are "Bulls" on This Market*

WASHINGTON'S used car market is enjoying excellent health, thank you!

No magic panaceas have been developed and registered in the nearby Patent Office for the exclusive use of automotive dealers in the District of Columbia.

Instead, they're simply applying sound business principles to the handling of one of the trade's bugbears.

One of the most prominent and successful dealers, Raphael Semmes, president of the Semmes Motor Company, says, "There's no difference between the used car business and the new car business that I can discover. We're making both pay us a net profit.

"As a matter of fact," he continued, "we can't get enough used cars today. Right now there isn't a used open car in our place."

The company's used car department is operated in connection with the service department, occupying a six-story garage building some two or three dozen blocks away from the new car salesrooms on Connecticut avenue.

And the president of the company makes his headquarters with the used car end of the business!

"We're buying used Dodge Brothers cars on the open market where we can get them in," he added. "On the street, or from anyone who brings one in to sell. If he doesn't want to trade it on a new car we are willing to buy it anyway.

"The answer is that we take them at our figure or not at all. Some owners, after getting our appraisal, which job by the way, is all done by one man, think they can sell the cars themselves to greater advantage. We're also willing to have them do that.

"But we tell them frankly in the first place that we intend to make a profit on the handling of every used car we take in, figuring on a basis of 20 per cent, less cost of reconditioning, deducted from the price at which we think the car will sell readily. The net amount is what the owner receives in cash or credit, as he prefers. Of course, we make a mistake once in a while and get one in bad shape."

Here another question popped up. "How do you keep up the volume of new car sales then, if any considerable proportion of the owners think your trade-in allowance is too low?"

Mr. Semmes smiled as he replied, "Our new car sales since the first of January have been 25 per cent in excess of the same period last year. Last month, only 16 per cent of those sales involved trade-ins. We thoroughly sell the prospect first on the new car. The next step is to convince the buyer that he must take the depreciation on his

old car—not the dealer. Our salesmen thought that was a little stiff at first but now they're for it.

"And one more thing about our used cars. We're not selling any more 'as is' cars. If they're not worth reconditioning and putting our reputation behind, then we send them down to auction."

Another thing Mr. Semmes does because it later brings back his used car buyers as new car prospects. He writes a personal letter to every one of them after they are in possession of the car. In this letter the president of the company expresses the hope that the car will be entirely satisfactory and if it is not, invites the owner to come back and tell him so. "And once in a while they do," he said, "but it certainly is worth it."

Another veteran in the car selling business in Washington is the Lambert-Hudson Motor Company, handling Hudson and Essex.

Here the policy pervading the organization is "Buy them right and sell them quick" to paraphrase the slogan of the National Automobile Dealers Association.

All cars are sold strictly "as is" and the buyer so advised. The policy is justified, Mr. Lambert believes, because it puts in the hands of the used car buyer the vehicle he wants at the low-

est possible price. Later, if he wishes to do so, he can add repairs and equipment as he may desire—many times doing the job himself.

Used cars never get a chance to accumulate in the extensive two-story garage and showroom maintained exclusively for used cars.

If a car remains without a buyer for two or three months, Mr. Lambert concludes there is something wrong with either the car or the price—and his remedy lies in the price.

Right now nearly every car coming in goes out again on the same day or the day following. Should any car prove a sticker up to the absolute four-month limit, a price is made which moves it. If a loss is inevitable, this company does not believe in prolonging it.

The same man appraises all cars offered. If the owner disagrees with the value set but wants a new Hudson or Essex, his old car is held at his price for 30 days. If it doesn't move then, the company's appraisal price is placed on the car as the sale price and it moves.

Two men sell used cars on full time. Both new and used cars are sold by the other salesmen. But they do not sell indiscriminately, for the simple reason that the salesmen do the financing—indorsing the buyer's notes. They're naturally cautious of credit risks! Down pay-

(Continued on page 19)

WASHINGTON, D. C., is one of the cities where dealers are getting down to bedrock business principles in handling the resale problem.

Here is an article which presents sidelights on how some of the progressive merchants in the national capital have been doing it.

No startling discoveries were revealed by the investigation of their practices, no magic wands were waved—no voodoo doctor has been on the job there. Their stories, substantially alike, simply tell of the application of practical business policies and demonstrates that practical business policies have paid.

It is worth noting that these dealers have kept their used cars moving from the first of the season. And some complain they can't get enough used cars.

In speaking of the used car business one Washington dealer says:

"The answer is that we take them at our figure or not at all. Some owners, after getting our appraisal . . . think they can sell the cars themselves to greater advantage. We're also willing to have them do that.

"But we tell them frankly in the first place that we intend to make a profit on the handling of every used car we take in, figuring on a basis of 20 per cent, less cost of reconditioning deducted from the price at which we think the car will sell readily. The net amount is what the owner receives in cash or credit, as he prefers."

# LESS VOLUME But MORE Profit In the Tire Business

## *Los Angeles Merchant Deliberately Gave Up Half of His Business and Started Building Anew on a Money-Making Basis*

**T**O sacrifice net profits in order to obtain greater volume is to invite ultimate disaster. F. J. Pullen of the Pullen Tire & Rubber Company of Los Angeles had this fact indelibly impressed upon him several months ago. Mr. Pullen has been engaged in the tire sales and tire repair business in Southern California for seven years. He built up a gross volume of nearly \$70,000, but he found he was not drawing down the net profits he expected. He called in an auditor to go over his books and study his business. A few days later the auditor told him that, by improperly distributing his costs, he was actually losing money on 90 per cent of the sales that had been made to corporations. In other words, Mr. Pullen's corporation business, which represented fully half of his total volume, was transacted at a loss.

### *Investment of Hard Work*

Many years' hard work had been invested in building up the trade among the large fleet operators in Los Angeles, but Mr. Pullen determined that he would voluntarily give it up. He was competing against exclusive distributors and factory branches, and he decided it was impossible to obtain an increased price for his merchandise. So he dictated letters to his many corporation customers, in which he explained that he had been handling their business at a loss and that he intended to discontinue it. He thanked them for their patronage and suggested that they seek other connections with some other tire house. When the last letter was in the mails, Mr. Pullen had relinquished about \$35,000 worth of gross business—but he was also releasing the cause of an unhealthy situation in his establishment.

Today, he is doing about half the business he formerly handled, and yet he is making more net profit. He now caters only to the retail trade, and has gone in extensively for tire repair business. He has cut down his overhead and operating expenses, and has installed an efficient cost analysis system which shows him every month just where he stands.

"I am thoroughly convinced that volume is the most meaningless thing in the automotive business," said Mr. Pullen. "If every tire dealer would stick to a profit-producing basis of mark-up on his goods, and would not go madly on the quest for big volume, the tire business would certainly be in a much healthier condition than it is today. Where would other retail institutions get off if they practiced such slipshod methods in doing business as is common with many tire houses in every community? I can talk frankly on this subject because I used these slipshod methods. I was chasing the rainbow for big volume, just like the others. And I was kidding myself in the belief that I was building up a nice big business, just like many others. But that auditor I called in gave me a new perspective. I looked at my business on the

books, rather than at the activity that was taking place in my establishment. And in so looking, I discovered a lot of things that I did not know existed.

"After deciding to give up the unprofitable corporation business, I moved my establishment and centered my efforts exclusively in developing the retail trade. And today we are making net profits from every tire sale and every tire repair job because we know our cost of doing business. We no longer are in the market for big volume, unless that big volume can be won with an established return in the way of net profits. We have learned the wisdom of turning away trade that is not attractive."

Mr. Pullen's new shop is equipped throughout with the very latest facilities for quick and efficient tire repair work. About 40 per cent of his total volume is now represented in retreading, vulcanizing and general tire repair. The other 60 per cent is in the sale of new tires.

Another change in business policy made by Mr. Pullen when he determined to place his establishment on a thoroughly efficient basis was to discontinue the practice of credit extension. During one year when he catered to the corporation business he lost \$600 as a result of three bankruptcies among his customers. Now he has no credit losses because he makes no exceptions to his "no-credit" policy.

(Continued on page 19)

**"Long time no see—how come?"**

EVERY time the old phone rang lately I've felt sure I'd hear you on the other end of the wire, but—"no catch" um yet. How come? I've missed you down here. We've all missed you. And you've missed something, too, by not using those PULLEN CHARACTERS RETREADS I've been writing you about. Guaranteed for 5,000 miles, most every one of them goes a darn sight further. But—to get back to the subject—Come on in—ride. Don't keep me in suspense any longer. Send it "postage due" if you drive, or walk—any old way just so you get here. If you can't come in, telephone—or write. What say?

I just want to know you're "still for me."

Pullen  
1101 West 10th St.

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**THEY SAY FIGURES CAN'T LIE**

**1 = 2**

**BUT**

Let me prove to you that I can make the life of one tire equal that of two by my methods of repairing & retreading

**ALL MAKES OF TIRES AND TUBES**

**PULLEN'S TIRE REPAIR SERVICE**

1101 West 10th Street  
(2 blocks west of Figueroa)  
Phone Metro. 2617

Two examples of post cards used by Mr. Pullen to bring in profitable tire business. He makes his repair department not only produce a profit but also cultivate customers for new tire sales.



## They Sell to Farmers—A Car A Day

(Continued from page 11)

if there are any sales of farm property or any changes in the status of our prospects we so indicate it on our cards. In this way we know that our records are accurate all the time."

Four salesmen are employed by the Oxnard dealer, and all work on a straight salary with bonus given for exceeding quotas assigned. The salesmen own their own cars and are allowed a straight \$20 a month for operating expenses.

"We have found the salary is the best basis of compensation for salesmen in the small town," says Mr. Taylor. "When we tried straight commission, we had a big turnover in our sales force. Since we switched to the salary with bonus, we keep our salesmen and we have good producers. With salary-paid salesmen greater co-operation is obtainable all the way around. We frequently advise a salesman to release a certain prospect and give him to another man for various reasons. For instance, one salesman may make three or four different calls on a certain farmer but has been unable to sell him. Yet the salesman feels confident that the man is still a prospect. He is satisfied the farmer actually has the desire

and the money to buy a car. The salesman in reality may have convinced the prospect that his car fits his needs, but the prospect has said 'No' so many times that his pride simply won't let him say 'Yes.' Now, then, we recognize this bit of sales psychology, and we never discard a prospect until after we have sent another salesman for a final call. Many are the instances where the new salesman making the final call on a prospect will get the order, where the four or five calls of the other salesman failed—failed because the prospect's pride refused to let him yield from a negative to an affirmative attitude, although he was really sold by the first man."

### Free Inspection Service

Every purchaser of a new car is urged to have two free inspections after delivery, one at 500 miles and the other at 1,000 miles. As evidence of the sincerity of the dealer to have the cars of their customers broken in right, Mr. Taylor says he sends out a service wagon whenever an owner reports he cannot drive into town himself. The service car tows in the owner's machine for the inspection and delivers it back to the customer.

## Bring on Your Used Cars

(Continued from page 17)

ments of 30 per cent to 40 per cent are always required, with the balance payable in ten months.

Stepping to another price class, the same questions about used car disturbances were put to Rudolph Jose, president of the Washington Cadillac Company—also of long and excellent standing as a veteran dealer.

"Our chief difficulty is in getting people to realize that we're selling other than used Cadillacs and cars of similar price. Naturally we have nearly all kinds of cars offered in trade, but the average used car buyer doesn't appreciate that fact."

Pointing to a couple of Cadillac cars two or three years old but in excellent condition, he continued, "We recondition all of them now that warrant it and there is the result. We have many customers who come in and buy a car like that, use it for a year or two and then buy a new one.

"Another curious thing is that some of our new car prospects turn out to be used car purchasers."

Careful credit investigation plays almost as large a part in used car sales of the Washington Cadillac Company as does actual selling. Long time payments are granted only where there is sound credit and good reason for giving them, as sometimes happens when the car represents the owner's business.

That the "junk" car is the greatest "bug" in the used car business today is the belief of the head of the Justice Motor Company, handling Willys-Knight and Overland cars.

"We have less trouble buying in at the right price, the car for which we allow around \$500 or \$600, than we do with the car which is six or seven years old and worth but \$50 or \$75," Mr. Justice said.

Views quite similar to the foregoing were expressed by other dealers interviewed.

## Less Volume But More Profit in the Tire Business

(Continued from page 18)

"We lost very few customers when we went on a strictly cash basis," says Mr. Pullen. "It is not difficult to get the money when a sale is made. If the customers know you allow credit privileges, they will in many instances take advantage of it, but when they are informed that sales are made only for cash, it is not offensive to them, because they realize the wisdom of this policy in the conduct of their own business."

Mr. Pullen offers free tire inspection, and also gives free wheel service. He does not give any further guarantee on new tires than that which the manufacturer advertises. On retreads he gives a guarantee of 5,000 miles, and he guarantees section work done at his shop to outlast the tire.

He has sufficient space in his new establishment to service seven cars at a time, with ample parking space for seven others without congestion.

Mr. Pullen keeps a close check on the frequency of visits

of his regular customers in order to acquaint himself with those who apparently are giving their patronage elsewhere. To all customers who have not come in for any service after two months, he sends a card carrying an illustration of a Chinese, with the heading, "Long Time No See—How Come?"

Mr. Pullen personally receives nearly all the customers who drive in his establishment. Inasmuch as his business bears his name, he believes it of advantage to impress his personality upon the customer.

"I used to think that price was the dominating factor that swung business to a tire house, or keep it away, but I have completely discarded all ideas along that line," he says. "Of course, there are a large number of automobile owners who make purchases only on the basis of price, but there is a mighty large field of owners to be cultivated who respond to the quality and service appeal. And by efficiently catering to these owners, a tire house can make reasonable net profits."



# Marmon Has New Four-Passenger Victoria Coupe

THE Victoria Coupe for four passengers has just been announced by Nordyke & Marmon Company, Indianapolis, Ind. Ample leg room has been provided without sacrificing a sociable seating arrangement or in any way giving an appearance of bulkiness to the car.

As in other models of the Series 74 line, the sun visor on the Victoria Coupe is a continuation of the top line. The windshield is in one piece, giving an ample view in all directions and insuring safety. The rear quarter is in black rough-grained leather with landau irons on each side. Distinctive type rear quarter windows have been provided with provision made for lowering the right rear quarter glass. The glass in the two doors lowers flush with the sills.

The driver's seat can be reached from either side of the car and to the right and a few inches to the rear of it is a comfortably upholstered seat for two passengers. Directly in the rear of the driver's seat is a storage compartment for small parcels. An auxiliary seat, is located to the right of the driver's seat and folds snugly under the cowl when not in use.

Ample storage space has been provided. In addition to the parcel compartment in the interior of the car, there is a large rear deck compartment suitable for carrying luggage, sports equipments etc. An attractive feature for golfers is a golf bag compartment of generous proportions in the left corner of the rear deck which extends beneath the seat and is so constructed that the golf bag and sticks can be carried safely without interfering with the use of the rear deck for other storage purposes.

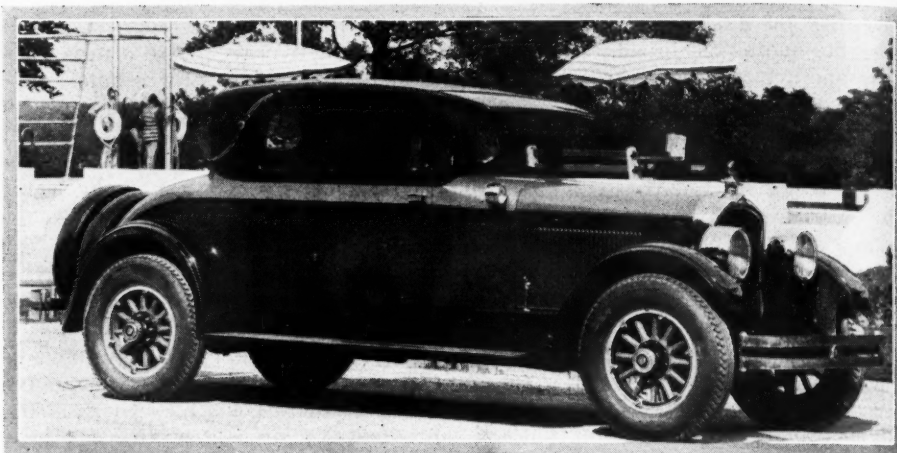
The Victoria Coupe is upholstered in broadcloth of a pin stripe, brown pattern. Three color combinations of Duco are offered.

## New Type Ford Transmission Bands Simplify Replacement

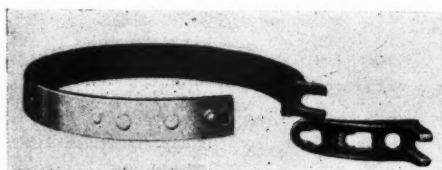
New type transmission bands simplifying replacements and steering gears of 5 to 1 ratio making for easier steering are now fitted on Ford cars and trucks.

It is no longer necessary to remove the transmission cover to change the new type of bands as a detachable ear on one side allows the bands to be withdrawn and replaced through the transmission cover door. The ear is held in place by means of studs in the ear slots, the shoulder of the ear snapping over the end of the brake band, holding it securely in place.

To remove the ear, it is only necessary

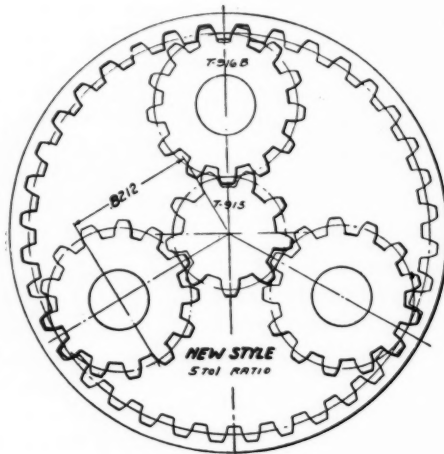


Marmon Victoria Coupe, a four-passenger model mounted on the Series 74 chassis

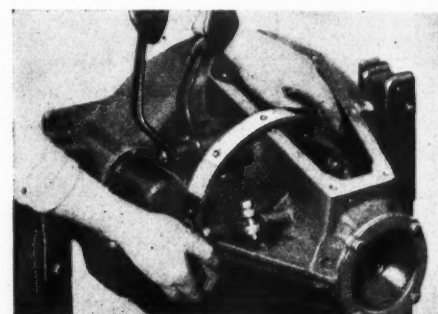


New transmission bands now used on Fords

to insert a tool which is made by bending over the end of a screwdriver one quarter of an inch, through the end of the ear into the square hole in the end of the brake band, lifting up on the tool and forcing the band down and the ear back. After the nuts, washers and springs have been removed from the pedal shafts, the reverse and brake pedals should be pulled out as far as possible, removing the ears as explained. The bands may then be withdrawn from the right side permitting them to follow close to the cover to prevent their distortion.



The 5 to 1 gears replacing the 4 to 1 gears of the Ford steering gear

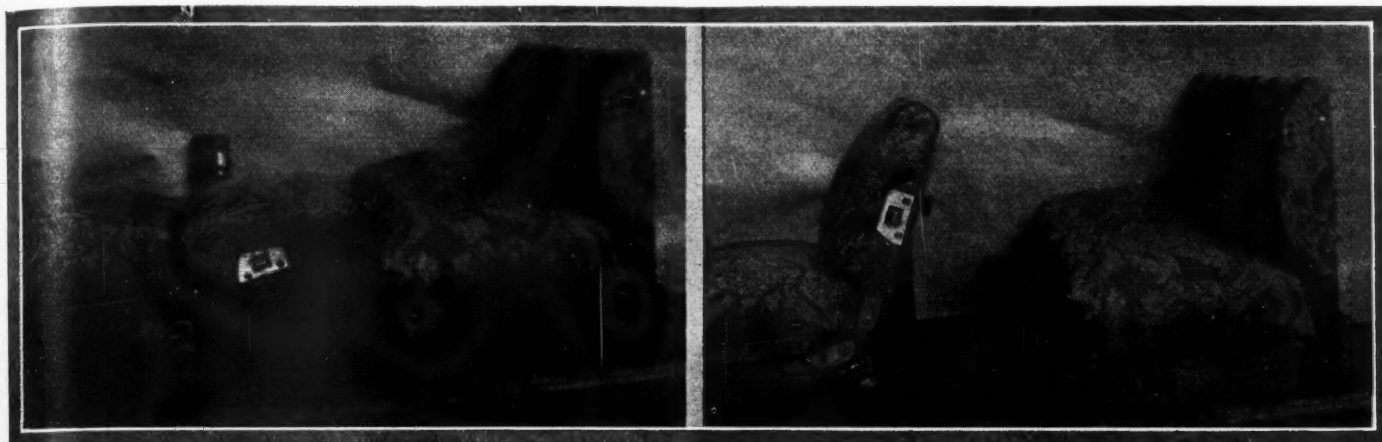


Where a car is equipped with the old type of bands, the transmission cover must be removed. The slow speed shaft must be cut off about  $\frac{7}{8}$  in. from the shoulder and a new type slow speed adjusting screw installed.

Steering gears of 5 to 1 ratio, which were originally installed only in cars equipped with balloon tires, are now being used on all cars regardless of tire equipment. A new steering wheel, 17 in. in diameter is used with the new steering gears which together with the increased ratio adds materially to the steering control. The gears used in the new 5 to 1 steering gear are not interchangeable with the old 4 to 1 type and it is very important that mechanics be apprised of the difference of the gears of the two ratios to prevent accidents due to locking.

## AUBURN ADDS MODELS

AUBURN, Ind., Aug. 15.—The Auburn Automobile Company has announced the addition of touring cars to both its 6-66 and 8-88 lines. The 6-cylinder touring car is priced at \$1,395 and the 8-cylinder touring at \$1,995. The equipment on both models includes sun visor, windshield wings, front and rear bumpers, spare tire and cover, and motometer. The finish is a two-tone lacquer and genuine leather upholstery is used.



Seifert convertible seat for automobiles, showing how the back of the front seat is lowered to bring it in alignment with the rear seat cushion. The support for the rear seat cushion also is tipped slightly forward to form a pillow-like structure

## Seifert Convertible Automobile Seat

A RATHER novel seat construction for motor cars in which the seat back of the forward seat is so built that it can be readily placed in alignment with the seat proper thereby converting the interior of the vehicle into a sleeping compartment, has been designed and patented by Henry Seifert, 7035 Greenview avenue, Chicago.

The design of the seat is such that it can be applied to a single front seat or to the folding chair type of seat commonly furnished in closed cars. In the latter case it is therefore possible to make one half of the car interior into a sleeping compartment or the entire interior at will.

The general layout is shown in the cross sectional views in which A represents lugs supporting the front edge of the seat. Extending along each side of the seat is a bar B and pivotally connected to the inner end of each bar are the curved links C, the outer end of which is connected to D. Parallel bars E extend down the back of the seat and the end of the links D opposite its connection at F with the links C is connected to the bar E at each side of the seat back.

Below the seat and on each side is an angular plate G the vertical flange of which has a slot H cut into it for the

pin J in which the latter rides. These two guides determine the position of the seat when it is folded back.

In the back of the seat is a knob K which actuates a spring catch B on each side of the seat. The catches normally engage in recesses cut into the pillar for the doors of the car or wherever they may be conveniently placed. Whenever it is desired to lower the seat backs it is only necessary to release the catches with the knob and drop the backs, during which process the pins J traveling in the slots move the links C and D toward each other.

The rear seat of the car is loosely mounted in order that it might be raised or lowered to provide a pillow-like structure. Adjustment of this is accomplished by a lever M placed in the seat riser. Moving the lever down raises the seat.

The Seifert convertible seat has been brought out particularly to meet what seems to be a more or less increasing demand on the part of the motoring public for a quickly convertible seating arrangement whereby the car may be used for sleeping purposes. The construction is said in no way to interfere with the conventional looks or seating arrangement of a car.

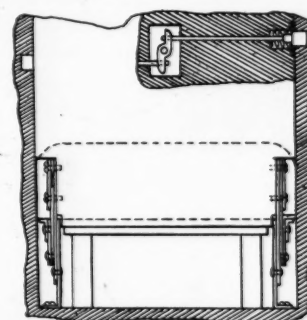
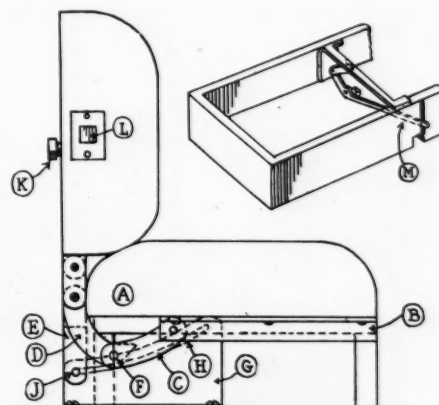
### New Cable and Fittings for Motor Car Brakes

New possibilities in cable for automobile brakes exist in the new Tru-lay wire rope and Tru-loc fittings developed by the American Cable Company, New York.

The new brake cable represents a basic change in wire rope making. Each wire and strand is preformed to the exact shape it must assume in the finished rope. Because of this new principle, the wire and strands resist unstranding. The new rope has greater stability and retains its length and diameter better under normal loads.

The new Tru-loc fittings are mechanically applied. They are in the form of a steel sleeve slipped over the unseized end

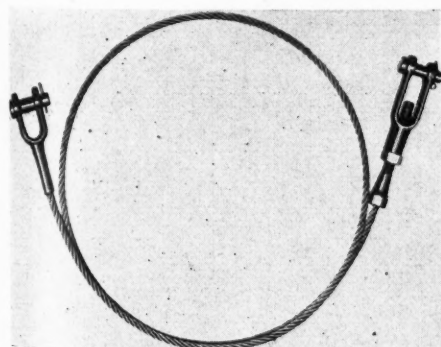
of the rope, a mechanical process flowing the metal down upon the rope. The cable is supplied in correct lengths ready to install for each make of car with fittings especially designed for the brakes in question.



Sectional view of the Seifert convertible seat, showing the general layout of the brackets and sliding members. The reference letters are referred to in the text

### PLANE USES NEW FUEL

SPOKANE, Wash., Aug. 15.—Lieutenant Nick Mamer, 116th Observation Squadron, National Guard, and a government forest patrol flyer, recently flew a biplane from Spokane to Wallace, Idaho, a distance of 90 miles, in one hour, using an alcohol-base fuel made from cull apples and potatoes. A factory has started production of this fuel here.



Tru-loc fittings attached to Tru-lay wire rope to be used for operating brakes on motor vehicles



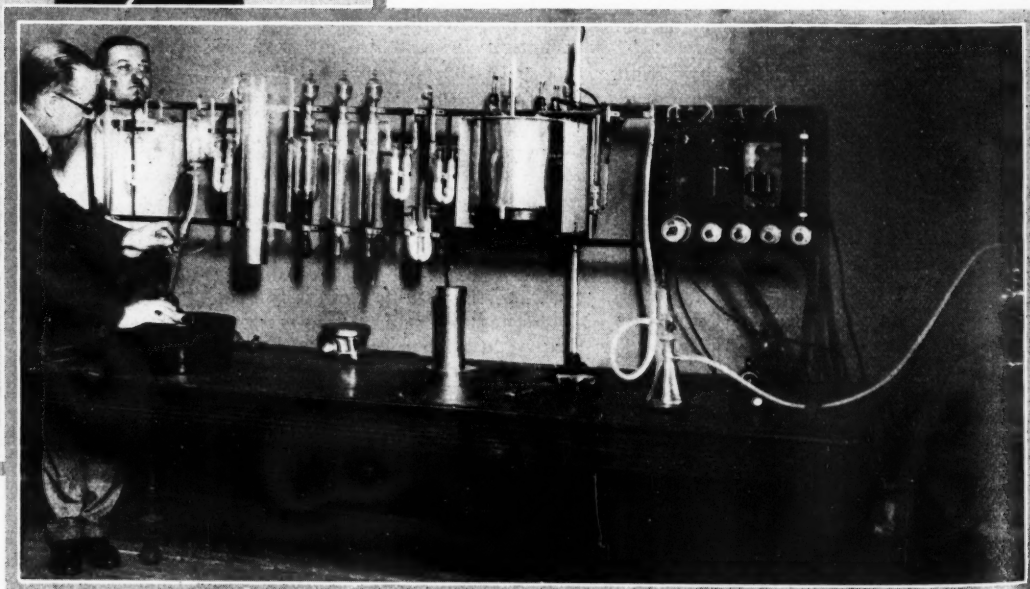
# MOTOR AGE'S PICTURE PAGES



**COMPLETE NON-STOP TRIP.** The photograph shows Lieut. Leigh Wade, one of the Army Round-the-World fliers, with his companion, Linton Wells, as they shook hands in the midst of a great crowd at Broadway and 57th street, New York, at the finish of their record non-stop automobile trip across the country from Los Angeles. A Packard eight was used.



**AIR TESTED FOR CARBON MONOXIDE.** Frederick Kenney, chief chemist, New York City, and Frank Gottisch, working on apparatus they will use to test air on Fifth avenue to determine amount of carbon monoxide discharged from motor exhausts.



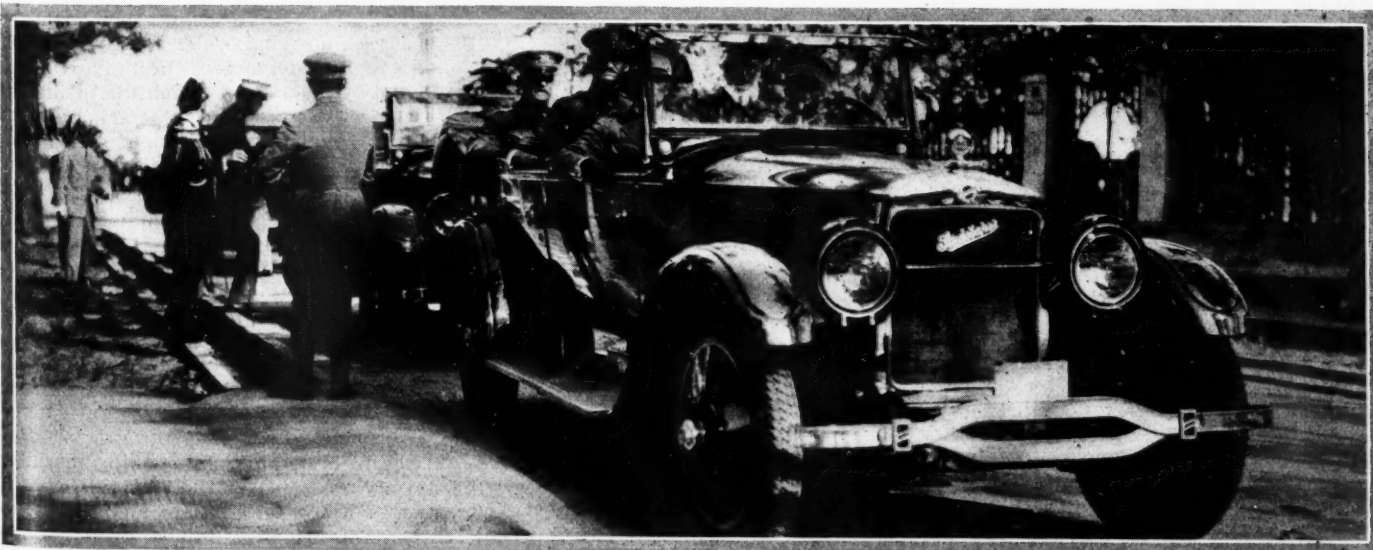


# OF AUTOMOTIVE INTEREST

**THEY KNOW BEANS.** In a motor sales contest recently the side that lost was required to feed the winners with turkey, while they themselves were to eat an entire meal of beans. Members of the sales force of the William L. Hughson Co., San Francisco, won. The losers were the sales force of Bert Moeller, Inc., Sacramento. Nine different kinds of beans were served.



**FORSAKES THE MOVIES.** Beverley H. Baird, movie double, who has given up that profession after hurting her knee, now operates a gasoline station and is shown fixing one of the many cars that come to her place.



**REPRESENTS U. S.** At the celebration of the 100th anniversary of the battle of Ayacucho held at Lima, Peru, were special missions from many countries. Gen. Pershing represented the United States, and is shown with part of his staff in the Studebaker which was placed at his disposal.

# The READERS' CLEARING HOUSE

Questions and Answers on Dealers' Problems  
**BUILDING • ELECTRICAL • FLAT RATES**  
**SHOP • LEGAL • PAINT & TRIM • ACCOUNTING**

## From Brakes to Wiring

Q—I would appreciate it if you could answer the following questions in regard to a 1917 model 22-73 Mercer sport touring. The brake, that is the service brake on the back of the transmission was relined and it now has a grinding, rattling noise when the brake is applied and the car is in gear, but when put in neutral and applied when coasting it is quiet.—A. F. Thedorff, 1727 Orange Avenue, Long Beach, Calif.

The noise in the brake is due either to looseness of the transmission main shaft or to backlash some place in the rear axle. Our guess is that the trouble is in the transmission which should be examined carefully and all abnormal up and down and end play removed by adjustment or replacement of bearings.

Q—Where is the adjustment of the hand brakes?

For ordinary adjustment a wing nut is provided which is accessible by removing the front floor boards. In other words the wing nut is mounted at the forward end of the hand brake pull rods. If equalization of the brakes is necessary loosen the lock nut on the ends of the two rods which extend from the rocker shaft to the brake levers. Then turn rods which are provided with right and left hand threads until both brakes have same tension. Then tighten lock nut.

Q—What method is used to prevent the oil from passing through the rear main bearing?

We are of the opinion that the original provision consisted of an oil slinger with a return groove in the bearing babbitt. We have been told from unofficial sources that regrooving of the bearing babbitt is necessary in order to secure a leak proof bearing, and for further details regarding the method of curing this trouble we would advise that you communicate with the manufacturers of the car, The Mercer Motor Company, Trenton, New Jersey, or with the local Mercer agent in your town.

Q—How is the motor timed in regard to valves and magneto?

### Timing for Series 4

Although we do not have figures concerning the 22-73 the timing for the series 4 which is fundamentally the same is as follows: Inlet opens 5 degrees after upper dead center, and exhaust valve closes 15 degrees after upper dead center. The magneto should be set so that when the controls are in full retard position the points will just start to open when the piston is on top dead center. The recommended exhaust tappet clearance is .006 and for the inlet .004 to .005.

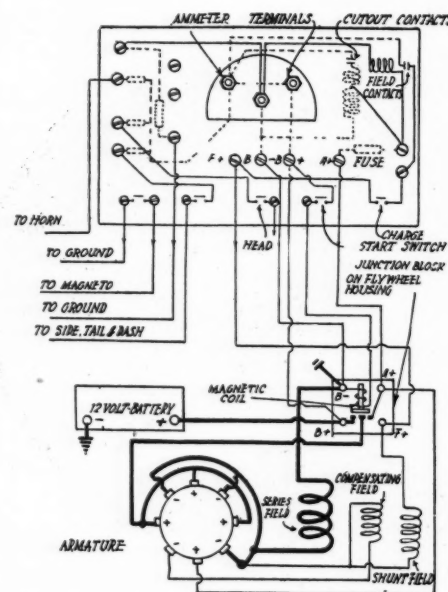
Q—What road speed is this car good for and how fast does the motor turn up? Also gear ratio?

We cannot give you a definite estimate of the speed of any individual car but basing the general run of this model with

the average gear ratio and with conditions ideal it should show 70 miles per hour. The engine will turn up to as much as 3100 revolutions per minute approximately. There were four rear axle ratios furnished by the Mercer Company as follows: 2.76 to 1, 3.22 to 1, 3.62 to 1 and 3.78 to 1. We are of the opinion that the 2.76 and the 3.22 were the ratios used on the touring and sport touring.

Q—What size full balloon tires would you recommend for this car?

Either a 21 by 6.20 or a 21 by 6.75. In either case the standing diameter of the wheels will be so near to the original



WIRING DIAGRAM ON 1917-MODEL 22-73 MERCER

### Wiring of 1917 Mercer Model 22-73

that no noticeable difference will be found in the speedometer reading as regard miles per hour and miles traveled. As this car is powerful it probably would pay you to install the 6 ply type of balloon tire.

Q—Would the steering apparatus have to be changed? It does not steer any too easy now on the road but when the front end is raised up it seems to turn free enough.

The installation of balloon tires will no doubt increase the resistance for steering at low car speed and when parking. For straightaway driving on the road and touring speeds there will be no great difference. The ideal condition would be to increase the ratio between the steering wheel and the road wheel. For further information regarding this we would refer you to the manufacturers of the car or the local maintenance station.

Q—The generator quit working and the lights have given some trouble. In order to check up on this will you kindly supply wiring diagram?

The diagram requested is shown on this page.

## Fitting of Piston Rings

Q—What is the correct way to turn, grind and fit piston rings and is it necessary for them to be eccentric.—A. W. Taberner, 31 Jackson Street, St. Hilda, Melbourne, Victoria, Australia.

This is not a job that should be undertaken by a mechanic in a garage, for the making of piston rings is a business requiring extensive equipment. Both eccentric and concentric rings are on the market and many makes of each type are available. The piston ring should be a good sliding fit in the ring groove in the piston and it should have no appreciable up and down play nor should it bind when rotated. It should also be fit to the proper cylinder so that there is a certain gap at the end. In a Ford for example the lower ring will have a gap of approximately .003 inches, the center gap will be approximately .006 inches and the gap in the upper ring approximately .009 inches.

### A Peculiar Knock

Q. I came in contact with a Willys Knight car which had a peculiar knock in the engine. I examined all main, big end and wrist pin bearings, also pistons and rings and all are in good shape. I think the knock must be in the valve arrangement. Kindly explain how to remedy this.

In Knight engines a condition is likely to be encountered which is not experienced in working on poppet valve engines. This is in connection with the head sealing ring which is a ring about one inch wide located in the extension of the cylinder head which fits inside the inner sleeve. When this ring wears loose in the groove the inner sleeve will cause it to move up and down and make a peculiar noise or knock.

A remedy which is applicable when sufficient care is used is to remove the cylinder head in question and carefully peen the portion of the cylinder head both above and below the ring. This will force the material of the head in so as to make the groove narrower and make the ring fit better. It is obvious that this work must be carefully done or the ring will bind in the groove; also if the fit is obtained by striking the head at only a few places the ring will be held due to a few high spots and will soon wear loose again.

Q—Supply wiring diagram of a 1923 Jewett.

This diagram will be sent you by separate letter.



# Planning Your New Building

By TOM WILDER



## Land Should Be Very Valuable to Warrant Three-Story Building

Q. I am erecting a three-story building on a lot fifty feet wide facing main thoroughfare extending back one hundred feet. Want first floor devoted to showroom, offices, stock room with balance of space used for cars and storage. Entrance on left side within building. Elevator in left rear corner and would like to have second floor devoted entirely to shop, third floor for new car and dead storage. L. F. Hart, West Palm Beach, Fla.

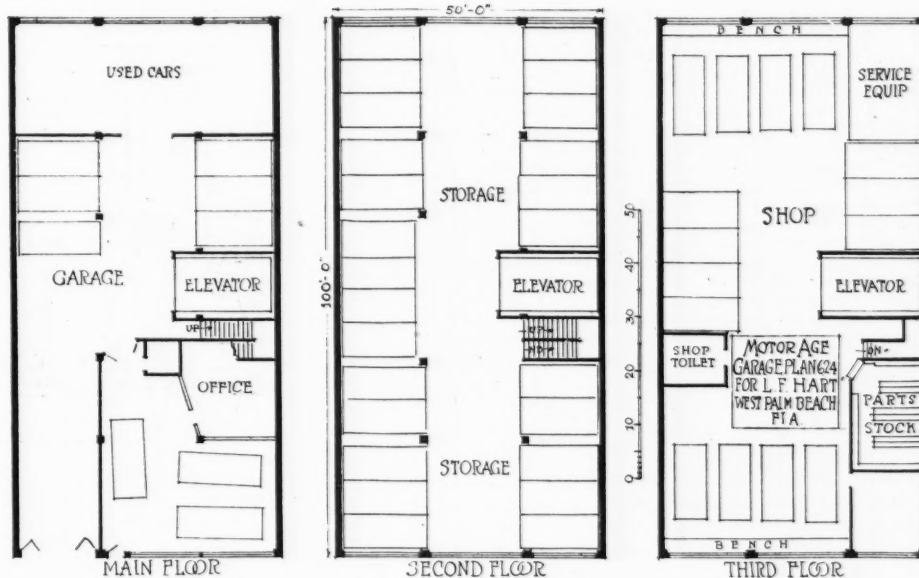
We are sorry that your lot is not a little wider than 50 ft. for while 50 ft. is a fairly good width for a one-story building, with the attendant complication involved in a three-story building, arrangement cannot be quite so good. If the lot were even on a corner, it would be more desirable or if it were 10 or 15 ft. wider you could install a ramp instead of an elevator and this would add greatly to the speed and ease of handling cars. The position we have given the elevator is much more economical of space than the one you suggest and we believe it is just as convenient. The second floor is by all means, the worst place in the building for the shop so we have located it on the third floor, where it can have plenty of light from skylights and since the roof will probably be supported by trusses, there will be no columns to interfere with car movement.

We have shown columns supporting the floor above on the first and second floors, but these could be done away with by the use of heavy girders. The expense of the building, however, would be considerably greater, although we believe the expense would be justified.

The worst feature of the plan in our estimation, is the limited garage space on the main floor. This could be increased by moving the used car showroom, to the front part of the second floor where it could be made of better proportion, and where it would have a better location in relation to the office and new car showroom being directly at the head of the stairs.

In laying out the shop floor we have considered the forward end as being the best place for minor repairs, while more extensive operations might be handled in the rear section, where the major part of the service equipment and machinery necessary for this work is installed. The small room in front of the parts department may be adapted to almost any use such as battery repair, electrical repair welding, in fact anything that seems to be necessary in the line of cars you handle. The man operating this room or his helper, might act as stockkeeper issuing parts to the shop or to customers.

If the used car showroom were moved to the second floor the parts department might be accommodated on the main floor back of the elevator with a dumbwaiter to supply the shop, but this



Even With an Elevator a 50-foot Lot is Rather Cramped. If the Elevator is Turned Lengthwise it Fills Too Much Space

would necessitate a special stock keeper and should be determined by the volume of your parts sales. If the sales are light we would prefer the third floor location.

### Removal of Clutch Springs

Q.—Again I wish to praise MOTOR AGE for the limitless amount of practical information I have received from the Clearing House. I also wish to express gratitude which I feel for same. I have taken the liberty to ask the following questions. Are the transmissions and clutches interchangeable on a 1919 and 1922 Cole?—Richard E. Saunders, Charlton, Mass.

According to information supplied by the local Cole maintenance organization, the 1919 and 1922 clutch and transmission are interchangeable.

Q.—How are the clutch springs removed? They seem to be difficult. Give any information necessary to accomplish No. 1 question.

Clutch springs are anchored by means of a cupped washer and a grooved key similar to the method of locking used on engine valve stems. As the springs are not very stiff it is possible to compress them by hand, push the cup washer forward and remove the locking washer, which will allow removal of the spring. The transmission and clutch assembly are removed in the same manner as you would remove any other assembly.

It is, of course, first necessary to disconnect the front end of the universal joint and the various brake rods and the transmission shifting lever. When this is done and the bell housing bolts removed and the clutch springs removed it is very easy to withdraw the entire assembly.

Q.—How much would be safe to remove from the cylinder head to increase compression, as you last advised me. This is on a 1922 Cole, serial number 61420.

We would advise removal of 3/64 of an inch from the head.

Q.—The 1919 car in question has the serial No. 55542, and the 1922 car has the serial number 61420. Are these cars of the year I have stated according to serial numbers.

According to our records Cole car bearing serial No. 61420 is a 1920 model. The car bearing serial number 55542 is a 1919 model.

### DATA ON COMPRESSION RATIOS

Q.—What is the compression ratio of the 1924 Chevrolet?—Chas. W. Ralstin, 1049 Hosbrook St., Indianapolis, Indiana.

4.3 to 1.

Q.—How high could the compression ratio be raised safely in a stock car?

Approximately 5 to 1.

Q.—How much metal would have to be milled off the block to obtain a ratio of 5 to 1? 6 to 1?

Enough metal should be removed so that the volume of the space above the piston at top center be exactly 1/5 of the total volume when the piston is at bottom center. With regard to raising the ratio to 6 to 1 it is necessary to bring the ratio to 16 2/3 to 100 or 1/6.

Q.—What would be the approximate cost?

The cost of the work after the engine has been brought to the planer or milling machine should not be over \$10.

Q.—Would increased compression give greater gas mileage?

Theoretically, yes. In practice we can not state.

Q.—Would the stock cooling system prove adequate in cooling the engine?

We cannot state definitely.





# Clearing Up Electrical

EDITED BY A. H. PACKER

## North East Motor Generator Circuits

Q.—Show a sketch of the internal circuits and connections of the North East motor generator used on 1915-1916 Dodge Brothers cars. This motor generator has a cutout and regulator in it. We have one of these machines in our shop and it will not open the battery circuit when the engine stops, but keeps right on drawing current from the battery until the battery lead is disconnected. The cutout seems to act normally and the wires do not seem to be burnt in any way. It will not help to put paper between the regular points and between the contact points. As soon as the battery is connected the generator will start to draw current and operates as a motor with the chain off. The starting switch cables are disconnected.—Leaf Mountain Garage, Clitherall, Minn.

The first thing to do would be to carefully check the connections and make sure they are correct, for under some circumstances, improper connection may make the machine operate as a motor. When you are sure that these connections are correct, it would be well to disconnect the two medium heavy wires shown connected to the cutout. One of these is attached to terminal A and the other at terminal C.

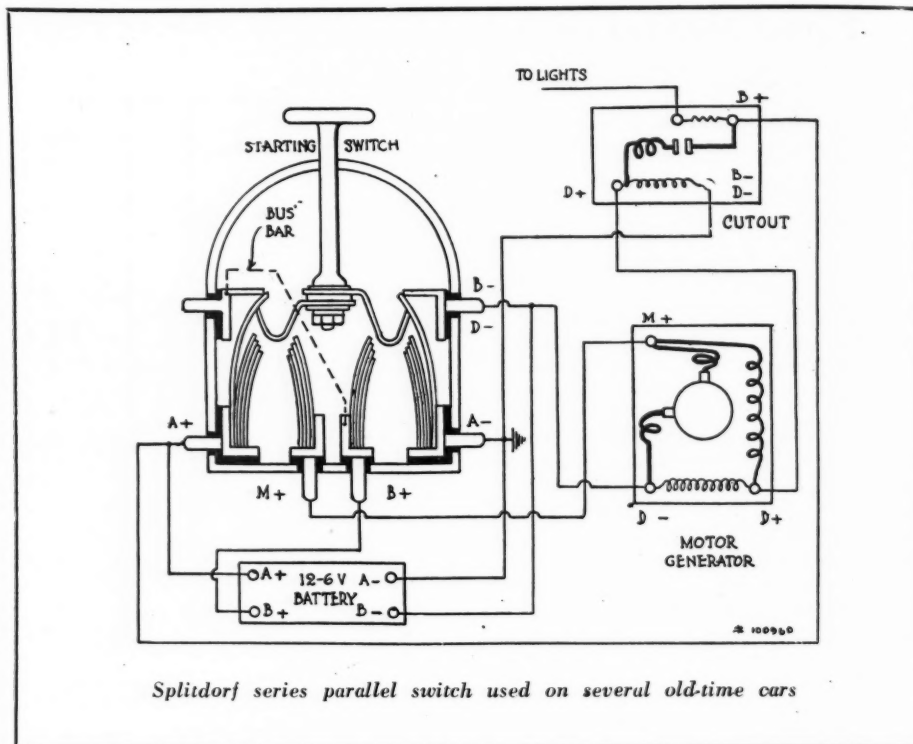
If you disconnect these and find this overcomes the trouble it shows that there is a short circuit in the cutout or in the regulator. With correct connections we have the No. 3 battery wire going to the left hand main brush, but we have the No. 1 battery wire going through the series field, but making no connection with the other brush until either the starting switch is closed or the cutout points are operated. It is therefore easy to see that if these connections are correct there must be something completing the circuit of the No. 1 battery wire to the right hand brush. One way of locating trouble of this sort is to disconnect the various parts of the circuit and then use 110 volt test points to see if any portions are connected which should not be.

For example, with the wires removed from the A and B regulator terminals you could put the 110 volt points on these terminals, and the lamp should not light up. The lower contact of the cutout should be insulated from the upper one and if this insulation is defective, it would cause the condition you describe. Additional information on this system was given on page 52 of November 6th, 1924, issue of MOTOR AGE, the same diagram being shown at that time.

### AN OLD TIME SERIES PARALLEL CIRCUIT

Q.—Please send us a wiring diagram for Model 5 Dort, 1915. We have copies of MOTOR AGE since January 1st, 1924.—Auto Wrecking Company, Gatesville, Tex.

This is a diagram worth keeping so we are publishing it at the top of this page.

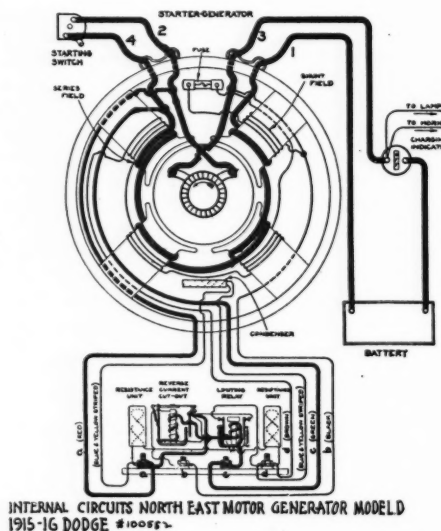


## To Make the Machine Generate Higher Voltage

Q.—We have a 60-volt 33 ampere Imperial Electric Co. compound wound generator. This machine is driven by a 5-h.p. motor at a speed of 2500 r.p.m. The rated speed of the generator is 2250. We desire to obtain 100 to 110 volts with this machine. We are using it for charging batteries and lighting purposes. Due to irregular current supply from the local power plant the voltage output often gets below the battery current, causing a reversal of polarity. The cutout in the charging line does not work fast enough

to prevent this. We have overcome this by cutting out the series winding and running the generator as a straight shunt machine. The present shunt field coils are coupled in series. What effect would it have on the output to couple them in parallel? Can the voltage be raised by winding more wire on the present shunt field coils? Room for this would be available by removing the present series winding from the pole pieces.—Lyells & May Auto Co., Cascade, Idaho.

We believe that you can increase the output of this machine by adding as many additional turns to the shunt field coils as the space permits. This means that space made available by removing the series winding will be filled up with additional shunt turns. You will then find that the resistance is considerably higher than at present and that it will be preferable to connecting the fields in parallel. If there are four field poles there will be two pairs of poles in series and these two pairs will be in parallel, so that the field current divides and half of it goes through one pair of coils and the other half through the other pair of coils. We assume that at present there is just one path and that all four field coils are connected in series. Without knowing the magnetic characteristics of the machine it is impossible to state exactly what will happen, but we believe this will give you approximately what you want.



# Trouble With Bill Fixit

EDITED BY A. H. PACKER



## Eccentric Commutator will Make Generator Cut Out

Q.—What causes a North East generator from a 1919 model Dodge Brothers car to reduce the charging rate to zero and cut out entirely when the car gains a speed of 30 miles per hour? The armature was out of round, and we had it trued up and new brushes put in.—Reckelberg Garage, Luxemburg, Wis.

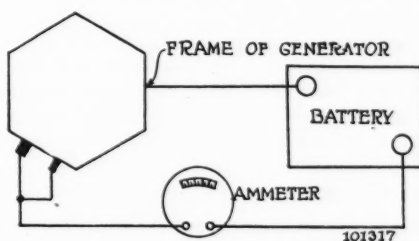
You may have turned the commutator without seeing that the surfaces on which the inner bearing races are supported were turning concentrically. This would mean that while the commutator would be turned round, it would run out of true. This would have the effect of throwing the brushes off of the commutator at high speed. Who ever did the machining on this commutator will know whether he first checked up the bearing races to see whether they turned concentrically or not. A recommended procedure is to turn these armatures by using the bearings themselves, as the centers of rotation, but this makes a complicated machining job.

If this is not the trouble, then there is doubtless trouble in the armature which only shows up at high speed when centrifugal force throws the wires outward and possibly produces a short circuit. Another possibility is that there is intermittent trouble such as a ground in the rocker ring or brushes which only shows up when the engine is rotating and vibrating. To test the armature you can run the machine on a test bench without any current in the shunt field winding. Then a delicate voltmeter can be connected to the two main brushes and the voltage should increase in exact proportion to the increase in speed. If at some speed the voltage suddenly drops off it will show either armature trouble or an eccentric condition which is throwing the brushes from the commutator.

If the trouble is due to eccentricity you can probably check by removing the commutator cover and pressing on the brushes with the fingers, to see if it again causes the machine to generate. This can be done with the car standing still and the engine running at a speed which is the equivalent of 30 miles per hour.

Another possibility is that when the armature was turned it was poorly undercut so that portions of the mica extend up to the surface of the commutator and cause the brushes to make poor contact. Poor spring tension would also cause the brushes to make erratic contact with the commutator.

In putting in new brushes it is essential to get those of the right grade, and it is also necessary to have them correctly installed. The yellow ones which contain the most copper are the main brushes while the black one is the third brush.



Connections for Maxwell generator used in charging radio batteries

## The Connection Must Be Right

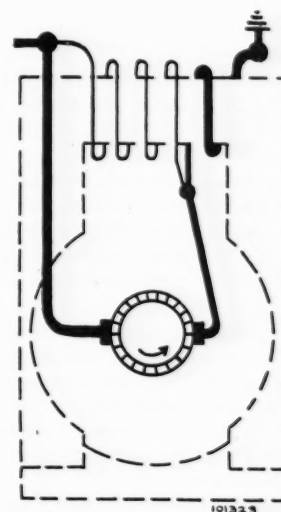
Q.—We have a Simms-Huff Motor generator that we purchased second hand and wish to use for charging 6-volt radio or automobile type batteries. It will not generate any current but runs very nicely as a motor when connected to a storage battery. Could you suggest the nature of the trouble?—Willard Griswold, Duplainville, Wis.

We are showing an illustration of a circuit that we think will be effectual in enabling you to charge a battery from the Simms-Huff motor generator. There are two terminals on this machine, as we understand it, one being connected to three brushes and the other being connected to the field. As you are operating without a regulator you will need to connect these two terminals together and then run a connection to one side of an ammeter. The rest of the circuit is evident from the sketch. The machine should run as a motor when connected in this way and you should then drive it in the same direction only faster.

When running as a motor the ammeter should show discharge, that is with the needle going to one side of the scale, and as you increase the speed by driving the generator the needle should come over to the other side of the ammeter scale, showing that you are getting charging current to the battery. You probably connected one battery post to one generator terminal and the other battery post to the other generator terminal. This operates the machine as a series motor, but it will not generate when connected this way.

## Armature and Field Burnt Up—Otherwise Normal

Q.—I am having trouble with an Autolite model G. A. generator used on a model 89-6 Willys Overland. This generator seemed to quit while on the road without any excess heat, but on examination it appeared to be pretty well charred, so I decided to have the armature rewound, but it did not do any good, so I opened the field and found it charred and burnt pretty badly, so I rewound the field myself using wire the same size from another generator. This wire seemed to be all right and while I did not count the



Circuits of Autolite G. A. generator

turns I put in about the same amount, but did not get any results. Now I would like to have your opinion on this generator and also would like to have an internal wiring diagram of the machine.

The shunt field may be shorted as I used enameled wire and some of the enamel chipped off. The generator seems to build up a small amount at times, but not enough to operate the cutout. It works as a motor and runs at a fair rate of speed.—Clarence Long, Kenton, O.

We are showing a diagram of the internal connections of this machine. It has both a shunt and a reverse series winding, although it would operate as a straight shunt machine except that there would be no regulation and it would send out too much current at high speed. The shunt field should draw about 1.4 amperes on 6 volts and you can make this test to see if the field is badly shorted or not. A slight short in the field winding would do no harm as it merely draws a little extra current and cuts out a few turns, but gives approximately the same number of ampere turns. We would say that if the field current is less than 2 amperes, that the machine should generate.

You should drive it as a generator in the same direction that it runs as a motor. One possibility is that you are driving it the wrong way or that the shunt field is wound in the wrong direction. Winding the shunt field the wrong way may be corrected by reversing the leads at the ends of the coil. In addition to possible trouble in the field it is possible that the armature has been incorrectly wound and if you do not correct the condition readily would suggest your getting in touch with an authorized electrical service station. You should also test the shunt field to see if it is grounded.





# Motor Age's Flat Rate Forum

EDITED BY B. M. IKERT

## Trend of Small Town Dealer Is for Fixed Prices on Repairs

ONE of the most gratifying things to be observed at the present time is the general trend even on the part of small town dealers and shops to the flat rate system of selling maintenance work.

Only the other day the owner of a shop, who by the way handles the Studebaker car, when asked if he sells all his repair work on other makes of cars at a flat rate price, replied "Wherever possible."

Being located in a small town he naturally must work on all makes of cars to make his shop pay and since he is able to quote Studebaker owners contract prices for all work he naturally seeks to extend this to customers driving other makes of cars.

They used to say flat rates could not be established in a shop doing a general line of repair work, but this idea is rapidly becoming discarded since too many shops have shown it can be done—and at a profit.

With all the available material to be had from factories and other sources there is little reason why any shop should hold off on the adoption of flat rate. We can divide present day cars into several groups such as the eight in line, V-type eights, the sixes, fours and then with a few makes like Franklin, Ford and Reo which have certain con-

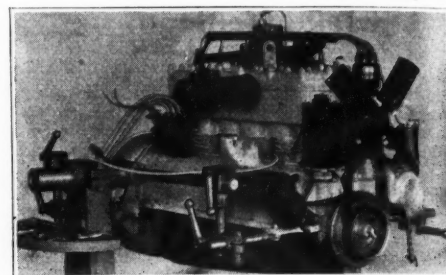
structions peculiar to them only, figure out methods and prices that will accurately be in keeping with the nature of any kind of operation done on all the various makes.

We have received letters showing dealers and repairmen using Motor Age's Flat Rate Manual are having excellent results with the schedules given therein, which surely would seem to indicate that flat rate is possible on all cars regardless of the make.

### Too Much Bookkeeping?

A subscriber who requests we do not publish his name says he thinks there is too much "red tape" in connection with the flat rate system, and his customers for the most part are willing to accept a maximum estimate on the work he does.

About all we can say to this is that nothing worth while ever was done without effort. Flat rate does mean system and bookkeeping and it has been the total absence of this in the past which forced a good many men out of business. The manufacturers of motor cars have done most of the work when it comes to compiling facts and figures for the assistance of those engaged in the maintenance of motor vehicles and it seems there is little excuse for any shop nowadays to attempt to sell its work on any other than a flat rate basis.



### THINGS THAT HELP FLAT RATE

When engines are to be entirely overhauled or certain units taken apart, it usually is best to remove the engine from the frame of the car and place it in an engine stand. Such a stand allows the mechanic to hold the engine at any position desired and infinitely is better than trying to do the work on the floor.

Practically all car makers have a flat system or are compiling them and all the dealer or maintenance man has to do is adapt them to his conditions. Ordinary multiplication and division is about all that is needed. MOTOR AGE's Flat Rate Manual tells how to do this.

The maximum estimate plan is at best a guess and the more we eliminate guesswork both as to the nature of the work involved and the price thereof, the better.

### Flat Rate or Fixed Price System

Rochester, N. Y.

To the Editor of MOTOR AGE:

I note in various issues of MOTOR AGE that you refer to the flat rate system also as the fixed price system. It seems to me it would be a good plan if the industry adopted one or the other name. —Fred V. Miller.

It is true the work of selling service and maintenance at a definite figure has been commonly referred to as the flat rate system and fixed price system. They mean the same thing although probably the expression fixed price is more indicative that a definite charge is made for the work. It would be interesting to hear what other readers have to say about this.

### Likes Flat Rate Manual

Groesbeck, Texas.

To the Editor of MOTOR AGE:

Please find enclosed money order for 50c to cover charge for one flat rate manual. We think it a fine thing and are adopting that plan.

—P. M. Dillingham.

## MOTOR AGE'S FLAT RATE FORUM

No. 25

### FLAT RATES ON HUDSON-ESSEX

#### REAR AXLE AND DIFFERENTIAL OPERATIONS

Manu- facturer's Official Design- ation		Time		
		Hudson	Essex 4	Essex 6
D- 1	General Rear Axle Overhaul. Includes inspection and replacement or adjustment of all necessary parts. Use this operation when it is necessary to replace housing assembly or to remove housing for riveting or welding seams.	8½	8½	8½
D- 2	Renew Ring Gear, Pinion Gear, Bearings and Cups. Replace ring gear, pinion gear, bearings and bearing cups, if necessary. Lubricate pinion bearings and differential housing.	6	6	6
D- 3	Adjust Rear Axle Gears Without Removing Gear Set Assembly. Adjust pinion and ring gear.	2	2	2
D- 4	Renew Pinion Gear and Pinion Bearings. Does not include operations on ring gear, differential or differential bearings. Lubricate pinion bearings and differential housings.	5	5	3½
D- 5	Remove End Play in Rear Axle Pinion. Remove end play in rear axle pinion by adjustment only.	½	½	½
D- 6	Tighten Rear Wheels on Axle Shafts.	½	½	½
D- 7	Renew Differential Carrier Gear Set Assembly. Remove old carrier from rear axle housing, assemble new carrier to housing and lubricate.	2½	2½	2½
D- 8	Adjust End Play in Axle Shafts and Renew Felt Washers, Axle Shafts, Adjusting Nuts and Bearings, if necessary.	1	1	1
D- 9	Renew Rear Wheel and Inspect Axle Shafts. Replace shaft if bent and adjust end play.	1¼	1¼	1¼
D-10	Renew Axle Shaft.	1	1	1
D-11	Tighten Rear Axle "U" Bolts.	½	½	½
D-12	Frozen Wheels. Add "A" to the above operation numbers and add additional time.	½	½	½



# THE MARKET'S NEW OFFERINGS

## Accessories—Equipment—Supplies

### Eveready Windshield Cleaner

ADVANCED mechanical features are said to be found in the Eveready (Type "B" Improved) Automatic Windshield Cleaner which is being manufactured by the Apex Electric Manufacturing Company, 1410-20 W. 59th street, Chicago. A special feature claimed for this contrivance enables the driver to lock the wiping arm in any position desired. The cleaner operates from suction of the vehicle's engine, connection being made at the intake manifold or vacuum tank. The wiping arm locks up in a corner so it cannot jar down in vision when not in use. It can be operated by hand in an emergency. The instrument comes complete with necessary fittings. Each shipping carton contains 10. Price, black finish \$3.50; nickle finish \$4.50.



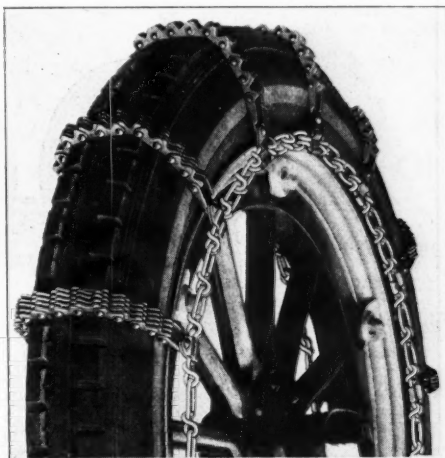
Eveready Windshield Cleaner

### Watkins Device

INCREASED gasoline mileage and less crank case oil dilution are claimed for The Watkins Device which is made by the M. & M. Co., Cleveland, Ohio. It consists of a cap at A, installed over the oil filler opening in which is collected the unburned vapors which pass by the pistons into the crank case. These are drawn through a brass tube to the valve at B, which leads the vapors back into the intake manifold. A button, D, on the instrument board controls this valve through a flexible connection, "C."

The valve is opened by pulling the button and it can be regulated to feed as much or little of the vapor to the engine as is desired. By utilizing these vapors which would otherwise be lost, it is claimed that extra mileage is gained. Also that it prevents these vapors from mixing with the crank case oil and diluting it.

Installation is said to be simple and not to require more than half an hour. A  $\frac{1}{8}$  in. hole must be drilled in the intake manifold and a hole through the dash to take the flexible control. Its installation does not interfere with filling the crank case with oil in the usual manner. At present it is made only for Fords. Price \$5.



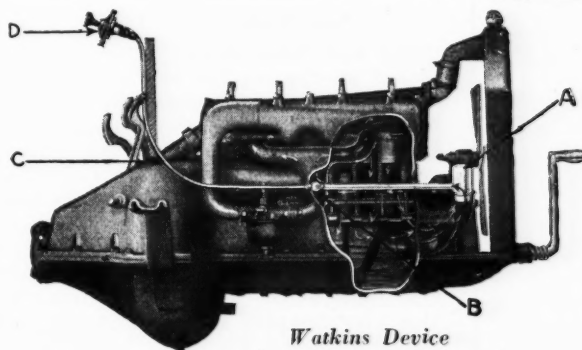
Tiger Claw Chain

### Keeping Up Contact With Buyers

"Owner satisfaction" is getting to be an important term in automobile selling. Keeping up contact with owners is getting to be an important part of the motor vehicle merchant's operations.

In some instances automobile dealers assign special men to keep in touch with owners, not primarily as salesmen, but to inquire as to the owner's satisfaction with the car he has bought. This interest pleases the owner and in many instances leads to further business with him.

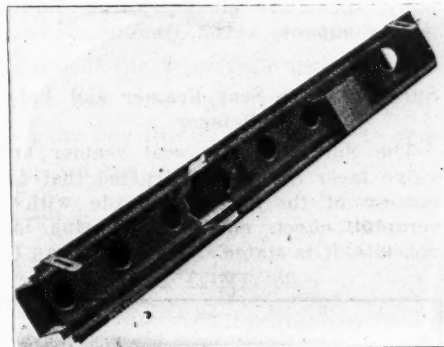
The buyer of an accessory will appreciate it if the accessory dealer or one of his employes would call him up to see if the device he has bought is giving satisfaction. A personal visit and chat, if possible, would not be amiss. This manifestation of interest will capture the confidence of the buyer in a way to bring him back to the store. In addition to that the new contact, itself, might result in an additional sale.



Watkins Device

### Tiger Claw Chains

ONE of the latest additions to the market's tire chain offerings is the Tiger Claw Chain which is being produced by the Universal Skid-Less Chain Company, of Niles, Michigan. Slipping or sliding in any direction is said to be impossible when these chains are used because of the corrugated cross links which provide hundreds of points of gripping contact with the surface of the road. Another distinctive feature stressed by the manufacturers is the smooth under-surface of the chain which prevents it from bruising or gouging the tire. Tiger Claw Chains are made in all sizes for both standard and balloon tires. The manufacturers declare there is seldom any necessity for replacing the cross chains, the entire device being able to withstand much heavy wear. Prices for these chains now range from \$7 per pair to \$13 per pair. It is stated that the list will shortly undergo slight readjustment.



### Spon Auto Ventilator

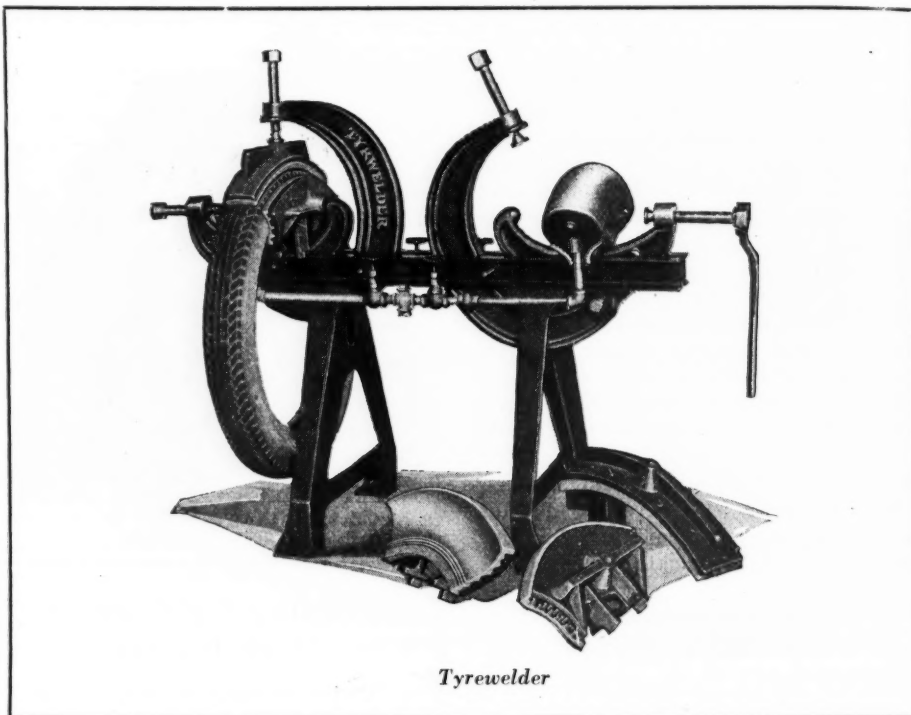
(Cut shown above.)

A VENTILATOR for closed cars is offered to the trade by the Lewis Manufacturing Co., Inc., 210 Orchard avenue, Sharon, Pa. It is known as the Spon Auto Ventilator. It is claimed that the Spon equipment will permit of free circulation of air within the car without setting up drafts, that it will keep windows from frosting and steaming in cold or rainy weather, that it will not admit rain, snow or sleet and that it will serve as a receptacle for cigar ashes, matches etc., and thus contribute to cleanliness within the vehicle. This ventilator is made of high grade sheet metal attractively finished and enameled and it is said it can be put into position in three minutes without special tools. It is made for all makes and sizes of cars. Price for doors up to 27½ in. wide is \$1.50; above that width, \$1.75. West of the Mississippi add 25 to the above prices.

# GETTING MORE OUT of the SHOP

## Tyrewelder

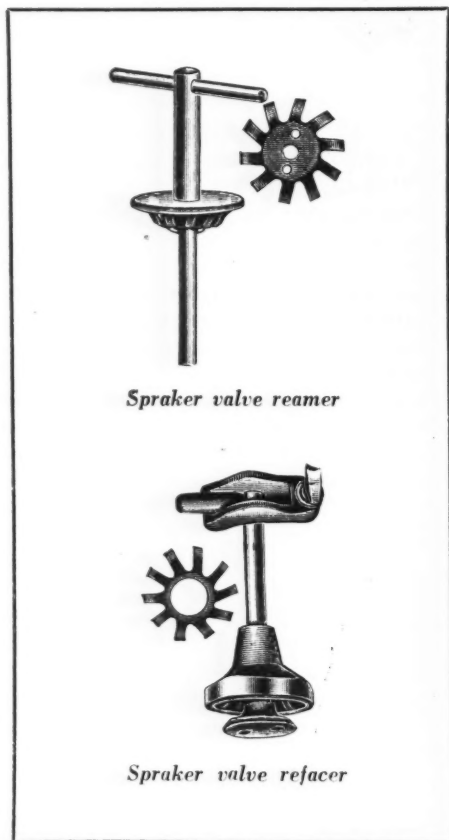
To facilitate balloon and heavy duty truck tires a machine called the Tyrewelder has been developed. It is equipped with three steel plates attached to which are rubber studded cushions. The section in the tire to be repaired is placed over a central steam arm or core. By means of heavy steel clamps and powerful screws, these three rubber cushioned plates press downward and inward on the tire thus holding the repaired section to be vulcanized snugly in contact with the central steam arm. This welds the repair to the tire so that it actually becomes a part of it. The cure is accomplished quickly for the heat is applied directly to the raw portion to be cured rather than having to pass through the tread and outer section first. The resilient rubber cushions take up every inequality of any shaped bead, sidewall or tread of any tire. It eliminates entirely the use of air bags, rubber impression pads, etc. The Tyrewelder is marketed by the Akron Tyrewelder Company, subsidiary of the Akron Equipment Company, Akron, Ohio.



Tyrewelder

## Spraker Valve Seat Reamer and Valve Refacer

The Spraker valve seat reamer and valve facer are so constructed that the cutting of the metal is made with a scraping effect, making chattering impossible, it is stated. The blades can be



Spraker valve reamer

Spraker valve refacer

removed and reground with little effort and can be replaced at a slight cost. The curved blades give two cutting edges and the concave cutters naturally give a convex seat. They are made in two sizes, one being 1½ in. for Fords and any 1½ in. valve seat, and the other, 1 21/32 in. suitable for the Fordson engine valves or other valves of the same size. The price complete for the smaller size is \$1.25 and for the larger size, \$1.50. Extra blades cost 30 cents each. The tool is made by the Spraker Mfg. Co., Indianapolis, Ind.

The purpose of this page is to help the shopman keep up with opportunities for time saving and added profits through the medium of new working facilities. If you own a shop do not neglect to read this page weekly. You will find here many valuable suggestions.

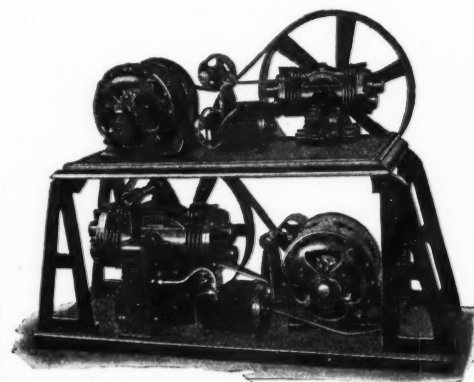
## New Weed Sturdy Pliers

The new Weed Sturdy Pliers recently placed on the market by the American Chain Company are especially designed for general garage, service station and taxicab uses as well as for the private car owner who does his own tinkering. They are drop forged and very rugged. They may be used in repairing passenger car tire chains to open and close hooks when installing new cross chains. They are also equipped with a wire-cutting device and measure 16 in. in length and weigh, in carton, 3¼ lbs.

## Dunning Compressor

The Dunning Compressor Company of Holmesburg, Philadelphia, who manufacture a unique two cylinder air compressor that has but three moving parts, is now building a special unit for the oil and gasoline trade.

The top section is for tires and general



Dunning Air Compressor built for oil and gasoline stations

purposes, the pump working at 150 lbs. pressure.

The bottom section is for a gas system where large volume is required for air lift systems.

Both units are fully automatic, noiseless in operation, and are operated with two 1½ h. p. motors.



Weed pliers



# EDITORIAL

## Now We Can Go Ahead

FOR years we have been startled from time to time by the dire predictions of Professor Somebodyorother that the crude oil supply of the country was rapidly being exhausted and that in a few years there wouldn't be any gasoline left to run our automobiles. Then there was talk of this or that substitute fuel that could be produced in the laboratory for a cent or two a gallon.

But we went on running our increasing number of motor vehicles with gasoline. And it appears that we will continue to do so for some years to come.

A Committee of Eleven appointed by the American Petroleum Institute has just made a complete study of the available petroleum resources of the United States and the probable demand for the next 50 years and has published a detailed report that holds little encouragement for the promoter who expects to get rich making a substitute motor fuel—at least for many years to come.

Here two significant paragraphs from this committee's report:

1. There is no immediate danger of the exhaustion of the petroleum reserves of the United States.

2. It is reasonable to assume that a sufficient supply of oil will be available for national defense and for essential uses in the United States beyond the time when science will limit the demand by developing more efficient use of, or substitutes for, oil, or will displace use as a source of power by harnessing a natural energy.

So let's get down to business and keep on making, selling and operating motor vehicles.

## Roadsters

WHILE closed cars continue to enjoy the lion's ratio of demand over open cars there is one open unit which has been holding up remarkably well in sales. This is the roadster.

Reports from the trade indicate most pleasing sales of roadsters while factories are giving considerable productive attention to this particular body. In many quarters surprise at the roadster's activity is expressed.

The roadster does not compete with the coach and sedan so extensively as does the touring car. It serves many distinctive purposes which give it certain sales outlets practically to itself. Then it can be curtailed more quickly than the touring car—again reducing the force of closed car competition.

Handsome and snappy designs in roadster bodies

doubtless have stimulated these sales, but the big contributing factor has been this model's great utility. The roadster is a handy vehicle well answering particular needs of many motor car users.

## The Obligation to Make Money

THE man who is engaged in any useful business is under a moral obligation to make money. This may seem inconsistent with the principle of competition and the ever-present demand of the public to be served at the lowest possible cost. Yet it is an indisputable fact.

A useful business is one that renders a service to the public. It fills a need or a desire of the consumer more conveniently, more promptly and more economically than this need or desire can be satisfied in any other way. A business cannot continue to render this service unless it is operated at a profit. If it is an unprofitable enterprise it soon falls by the way and its wreckage carries financial injury far beyond its own confines. The business that is economically operated and at the same time makes a reasonable profit is the one that deserves the patronage of the public, because it is the one that will continue to render a regular and useful service to the public.

## There Must Be Progress

SEVERAL years ago MOTOR AGE announced in its news columns the appearance of an automobile at the National Shows with a fabric-covered body. Since then we have heard very little of any further developments along the line of pioneering indicated by that event. Now, however, one of the oldest motor car manufacturers has placed on the market a car which has a body finished with that type of fabric.

The fabric body as mounted today does not closely resemble the early experimental models. In the present-day adaptation of this material the hood is left with its conventional metal covering and metal fenders are retained. But the rest of the body is covered with fabric which is said to possess the advantages of being durable, easily cleaned, easily repaired, light, noiseless and attractive in appearance.

The public will be the judge of this type of passenger car finish. What the public decrees will be accepted by the manufacturers. But we have no way of knowing the verdict of the public until the article is offered to it. Then it speaks quickly. To test out public opinion is a function of the manufacturers, and the more we have of such testing the more progress will there be in the automotive industry.

# Price Cuts Greatly Stimulate Business

## Production and Sales Both At Highest Levels of Year

### Bus and Truck Builders—Especially Fortunate Because Demand Pre- cludes Need of Reductions

NEW YORK, Aug. 19.—Bargain hunters are thronging the automobile sales-rooms these days. The wave of price cutting has undoubtedly stimulated business, and with the lower price in most instances have come new models in attractive colors and body designs well calculated to catch the fancy of the prospective purchaser.

Both production and sales are running at the highest level of the industry for this time of year. There has been little, if any, over-production so far, and dealers' stocks are in excellent condition, with some of them complaining of inability to obtain sufficient numbers of the new cars. The used car situation is not quite so favorable, since lower prices on the new models have had the effect of making the used cars harder to dispose of without reductions.

Bus and truck manufacturers are in even better condition than the car makers, since the demand for their products has been so great there was no need for price cuts. Parts and accessories manufacturers are sharing in the general prosperity, a compilation by *Automotive Industries* showing that profits in this end of the business increased in the first six months of 1925 an average of 89 per cent over the corresponding period of last year.

Profits for car manufacturers are not likely to be as great during the last half of the year as they were in the first, as they are now feeling perhaps the fiercest competition they have ever known. The price cuts, however, are not as damaging financially as they might appear, as notable economies in production have been introduced in most instances. The feeling is that no further reductions will be made, except in two or three possible cases.

A great deal of attention is being directed to foreign sales, as opportunities for the export of American cars were never better. Cuba has launched a \$300,000,000 road building project that should mean large sales of American cars. Germany has abandoned its restrictions on automobiles, which limited manufacturers to four cars a month, and replaced them with a tariff which, while high, will permit American makers to compete.

## Committee Is Appointed to Plan Standard Parts Show

DETROIT, Aug. 15.—Announcement of a committee to arrange for the annual convention and show of the National

## University Offers Traffic Course

WASHINGTON, Aug. 15. — A course in traffic, unique in university circles, is being conducted here by Dr. F. A. Moss, professor of psychology at George Washington University. The course is conducted as a seminar, and is open only to graduate students.

Dr. Moss is preparing a series of lectures, some of which have dealt with the analysis of the psychological factor of automobile driving, causes of accidents, the element of emotional stability of drivers, and the use of psychological tests to determine a person's capacity to drive.

Professor Moss, who conceived this course in traffic, is secretary of the Hoover committee on causes of accidents, and on one of the district advisory committees. He has recently devised a series of tests to be given to automobile drivers. The course is proving so valuable that Professor Moss is contemplating conducting it next year.

Standard Parts Association was made here today by C. B. Fraser, secretary of the Association. The date of the convention is November 5 to 7, inclusive, and it will be held in Chicago. It will be opened to manufacturers and jobbers and non-members by special invitation.

The personnel of the various committees for the show which was placed in the hands of the show committee follows: President, A. T. Haugh, chairman, King Quality Products Company, Inc., Buffalo, N. Y.; Manufacturers, Chas. W. Moffett, Warren Gear Products Company, Warren, Pa., D. W. Rodgers, Federal-Mogul Corporation, Detroit; Jobbers, C. J. Pierson, P-D Auto Parts, Inc., Meriden, Conn., W. E. Mills, Auto Parts Company, St. Louis, Mo.

The show committee had divided its work among various committees as follows: Publicity, T. R. Walton, chairman, James Motor Valve Company, Detroit, C. J. Parks, American Piston & Machine Company, Detroit; Entertainment, J. G. Winterfeldt, chairman, Well-Ever Chicago Sales Company, Chicago, Ill., C. B. Fraser, secretary of the association.

The invitation and attendance committee is composed of D. W. Rodger as chairman, and secretary C. B. Fraser, Garland Ames of the Timing Gear Corp., Chicago, sergeant-at-arms.

## Mexican Highway Building Will be Started at Once

### Carolina Engineer to Have Direct Charge Under Commission of Three Government Officials

LAREDO, Tex., Aug. 15.—Construction of Mexico's system of modern highways will be under the direction of a National Highway Commission of three members, selected by President Plutarco Elias Calles, according to Charles M. Upham, state highway engineer of North Carolina, who was recently appointed consulting highway engineer of Mexico. Mr. Upham passed through here on his way home from a visit to Mexico City where he conferred with government officials.

"A tax of 6 cents per gallon on gasoline, and a graduating tax on tobacco will provide the finances," he said. "The commission now has about \$500,000 per month available from this source. This is expected to increase to about \$12,000,000 per year.

"In my first official report to the Mexican government submitted August 3, I recommended that we begin work at once on the road between the Mexico City and Pueblo, a distance of 72 miles, and also on the road between the capital and Pachuca, 54 miles. This work was contracted to Byrne Brothers of Chicago, at an estimated cost of \$2,286,950, or, about \$18,100 per mile.

"Local conditions made an immediate start on these two stretches feasible. Surveying and aerial photographic work on the other links will be carried forward at once, the first work to be on the Laredo-Mexico City line.

"The abundance of local material of almost every kind, and also the ample and cheap labor makes vast economies in construction possible. The main highway arteries will be fashioned after the standard American type, about 19 feet wide and of varying construction to meet the traffic demands.

"I recommended that about \$300,000 worth of road building machinery be purchased at once. This will all be of the most modern, portable type, and should be available in the next month for work to start."

## MOON SALES INCREASE

ST. LOUIS, Aug. 15.—Sales of Moon cars in July were 59 per cent higher than in July, 1924, according to Frederick H. Rengers, general sales manager of the Moon Motor Car Co. Shipments were well distributed over the seven body styles of the Moon cars. On nearly every day of the month there were at the factory a number of dealers asking for cars and in many cases these dealers brought from two to five assistants with them in order to drive away the cars they had on order rather than have them shipped.



## Paris American Car Show Now Definitely Abandoned

**Project, if Carried Out, Would Cause  
Disqualification in National Show  
of All Who Participate**

PARIS, Aug. 1. — (By Mail) — The French automobile industry having decided against a show this year, persistent rumors are circulating in Paris to the effect that dealers in American cars will organize their own exhibition in the French capital. Traced to its source, it appears that this project originated with the European branch of General Motors, but it has been definitely abandoned, for it would cause those taking part in it to be disqualified from the official French show.

Henri Cezanne, general manager of the Paris Salon, stated that no public exhibition of any kind will be tolerated; an exception, however, will be made for used car shows, providing they do not last more than four days. Dealers at Lille announce a show for the Fall, but manufacturers have been warned that if they take part in it they will not be allowed to exhibit in the Grand Palais in 1926.

M. Boehr, who holds the Chrysler concession for France, is completing an exhibition hall, declared to have cost 8,000,000 francs, and will inaugurate it in early October with a public show of all makes of cars. The hall, which is the biggest and most luxurious in the world devoted to the automobile industry, has a floor space measuring 200 feet by 165 feet with perfect roof lighting and no pillars, and above it are four closed tennis courts with rubber floors. After the October show this hall will be used as an automobile showroom. The building adjoins the St. Didier garage of which Baehr is the owner, and is being fitted up in a most luxurious manner. Offices surround the main hall; there is a gallery for storage; bathrooms, showers, an American bar and private salons are provided.

Various French makers are considering the possibility of inviting their dealers to Paris at the time the show is usually held. The main difficulty is that French dealers generally have the agency for several makes, and if any manufacturer took the initiative of inviting his dealers to Paris the other makers would get all advantages without any cost. Joint action among manufacturers is impossible for this would be considered equivalent to a public show and would be disapproved by the Paris show management.

## Production of Hannum Gear Expected Within 90 Days

MILWAUKEE, Wis., Aug. 15.—Actual production within 90 days, of the Hannum steering gear, is announced by George H. Hannum, president and general manager of the newly re-organized

## Nash Gives Camp Lodge to Boys

MILWAUKEE, Aug. 15.—C. W. Nash, president of the Nash Motors Company, is donor of Nash Lodge, recently erected at Camp Manitowish in northern Wisconsin by the state Y. M. C. A. The lodge is a big one, 128 feet long and 32 feet wide, with floor space exceeding 7,000 square feet. Mr. Nash presented the building for use by the boys of the state with this thought:

"I believe that the greatest good you can do for America, in addition to what you are doing, is to use these boys' camps to bring together boys of all denominations. If I were to start out today to map out a work that I should wish to accomplish before I die, it would be to bring into close association, all religious organizations of this great world."

Hannum Manufacturing Company of Milwaukee.

The Hannum Manufacturing Company has taken over the property of the Lavine Gear Company. In addition to continuing to service all former products of the Lavine Gear Company, the Hannum Manufacturing Company is engaged in rearranging its factory and machinery for the production of the Hannum gear, a gear especially designed to take care of the additional demands of balloon tires upon the steering assembly.

The present plans are being so worked out that additional factory space on the adjacent land to the present plant can be swung into production without interfering with the present factory.

The officers of the new organization are: George H. Hannum, president and general manager; T. R. Johnson, Vice president and sales manager; Herman Uihlein, chairman of the board; Arthur Westfall, secretary and treasurer; Arthur Groth, assistant secretary and treasurer. The first four named above, together with Walter Malotte, form the board of directors.

## BRIGGS EARNS \$2.04 SHARE

DETROIT, Aug. 15.—Briggs Manufacturing Co. reports for the first half year, after depreciation, taxes, etc., net income of \$4,067,265, equivalent to \$2.04 per share earned on 1,999,688 shares outstanding after recapitalization. Second quarter earnings were \$1,678,449, compared with \$2,388,816 in the first quarter. According to W. O. Briggs, president, earnings for the two quarters reflect the expense of radical changes in body manufacturing. Replacement of wood by steel parts necessitated additional plants and equipment. Larger earnings are expected in the last half and body units manufactured in the first six months were in excess of those manufactured last year.

## General Motors Denies Plan to Produce "Miracle Engine"

**Authorities Discredit Reports of Discovery of New Fuel, Said to Revolutionize Industry**

NEW YORK, Aug. 15.—Sensational news dispatches concerning a "new" synthetic fuel termed synthol, and assertions that it is to be produced by General Motors and other du Pont interests in cooperation with the Standard Oil Co., are discredited by authoritative sources here. Officials of the Standard Oil Co. of New Jersey deny that they have any intention of marketing a new synthetic fuel, while President Alfred T. Sloan, Jr., of the General Motors Corp. characterizes the statements that his company is to make the fuel and a new high compression engine giving double the power for the same weight as being ridiculous on their face and without the slightest foundation.

Both General Motors and Standard Oil officials still are interested in ethyl gasoline and still are awaiting the report of the Surgeon General in respect to the effect upon the public health of the use of this fuel, but this is in no way related to the fuel termed synthol, the manufacture of which is said to be covered by German patents turned over to the Chemical Foundation by the alien property custodian and recently "discovered" by a government chemist engaged in preparing a Department of Commerce circular about Methyl alcohol.

A legal fight over the processes has been impending for some time between the Germans and American interests, but with the discovery of the secrets of the key patent here, legal authorities say there is no doubt to the American rights.

The thirteen patents were among 4,500 seized during the war by the alien property custodian and turned over to the Government-formed Chemical Foundation Inc., for licensing to American manufacturers. They cost the foundation a lump sum of \$250,000 or at the rate of \$50 each.

## Prices Reduced by Dodge Brothers From \$10 to \$60

DETROIT, Aug. 17.—Due to increased production a reduction of from \$10 to \$60 in the price of all models, with the exception of the roadster and chassis, was announced today by Dodge Brothers, Inc. The new prices follow:

Standard Models	
Touring .....	\$ 875
Coupe .....	960
"B" Sedan .....	1,045
"A" Sedan .....	1,195
Coach .....	1,035
Panel Commercial .....	960
Stream Line Commercial .....	885
Special Models	
Touring .....	\$ 975
Coupe .....	1,060
"B" Sedan .....	1,145
"A" Sedan .....	1,380
Coach .....	1,135

## Treasury Amends Excise Tax on Automobile Parts

**New Ruling Removes Levy on Accessories When Used by Makers of Other Than Motor Cars.**

WASHINGTON, Aug. 13.—The Treasury Department this week issued amended excise tax regulations covering automobile and motorcycle parts and accessories, which exempt from taxation these accessories when used with other commercial articles. The new regulations, which are retroactive to July 3, 1924, make a drastic change in the administration of excise taxes on automobile parts, as heretofore some accessories, such as spark plugs, were taxed as automobile parts whether used on automobiles or boats.

The amended regulations provide that the last paragraph of Article 16, Regulation 47, 1924 edition, are to read as follows:

"Parts or accessories for automobile chassis, automobile bodies and motorcycles primarily adapted for use on or in connection therewith when sold by the manufacturer thereof and used for any other purpose are not taxable provided the purchaser files with his order a statement that such parts or accessories are to be used on or in connection with another article of commerce not enumerated in sub-divisions (1), (2), or (3) of section 600 and further provide that the parts or accessories are used according to the certificate.

"For example, a self starter primarily adapted for use on an automobile, if sold to a manufacturer of motor boats, such manufacturer stating in his order that it is to be used in the manufacture of a motor boat and not upon an automobile, is not taxable provided it be used in accordance with the certificate."

## New Types Reflect Design Trend

(Continued from page 13)

The application of gear grinding to transmission gears after hardening has lagged a long way behind the development of practical gear grinders, but gradually the practice seems to spread. To the several firms having adopted it in the past there has now been added the Chrysler Motor Corp., which grinds all of the gears in its transmission that are likely to be troublesome from the noise standpoint. In this connection it is interesting to note that Chrysler has changed from the stub tooth, in general use in transmission gears, to the full depth tooth, thus confirming the assertion which has been made by a number of investigators that the full depth tooth is decidedly more quiet, if other things are equal.

Few changes in connection with brakes

## Nevada Bans Free Tourist Camps

SAN FRANCISCO, Aug. 15.—Abandonment of free automobile camps by practically every town in the state is announced by the Highway Commission of Nevada. Nominal charges are being imposed in all the municipal camps which formerly were free, in an effort to do away with the abuses of the camps encountered under the free system. Nevada officials say that the free camps were not patronized by a desirable element of motorists; that they attracted petty criminals, who used the camps as centers from which to prey on the communities; and that a number of persons found in these camps eventually became public charges on the state and the communities. Reno led the way last year in abolishing its free municipal camps and the other cities of Nevada followed this year.

are mentioned in the descriptions of new models. Those who have been using four wheel brakes continue to fit them, in most cases without alteration, while those who still maintain these brakes are not necessary on their particular models do not seem inclined to alter their position. The period of feverish activity in brake development seems to be past. In one case application of the brakes is rendered easier by giving the rear brakes a greater wrap.

Changes in body lines, in trimmings, color schemes and items of body equipment are numerous and in spite of a few instances where the chief consideration evidently has been a lowering of manufacturing cost, it is undoubtedly true that the 1926 car will be an all around improvement over that of any previous year.

## Stutz Production in July Is Ahead of June Record

INDIANAPOLIS, Aug. 15.—Stutz Motor Car Company of America, from records recently completed, announces that its July production and shipments were 380 per cent of last year's mark, and this big gain was made in spite of the fact that the first three days of the month were given over to completion of an inventory started in late June, and the holiday of July Fourth also caused another productionless day.

The July output and shipment figures also beat the record established in June and the present month activity forecasts that August production will at least approach last month's mark.

The records made by the plant and the sales organization throughout the land for the 1925 season have surpassed all expectations and tentative schedules laid out when Fredrick E. Moskovics took over active management of the Stutz company this spring.

## Philippines Seen as Future Source of Rubber for U. S.

**Secretary Hoover Believes About 70,000 Tons of Raw Product Could Be Grown at Present**

WASHINGTON, Aug. 15.—The Philippine Islands, with a potential rubber production of 70,000 tons annually, may be the answer to the British Rubber monopoly, which controls a big portion of the world's supply of this raw material, the Department of Commerce announced here this week.

A survey directed by Secretary of Commerce Hoover indicates that conditions in the Philippines are more favorable to cultivation of rubber than those in Sumatra and Malaya, now the principal producing centers of the world. American manufacturers consumed nearly 350,000 tons of raw rubber last year, paying prices virtually dictated by the British monopoly. Officials declared that the potential Philippine output would put a "big dent" in the foreign supply control.

The report of the commission investigating conditions in the islands declared that "foreign" capital is required for the establishment of plantations. This capital is, of course, available in the United States where bankers are carrying more than \$10,000,000,000 invested in foreign enterprise.

"Regarding soil, topography and accessibility there are large areas in the Philippines that if utilized for rubber production, would be superior to the lands now generally available for new plantations in Sumatra and Malaya," the report said.

"With a population of more than 10,000,000 in the islands it is believed that the more congested provinces together with local labor, might furnish a sufficient force to produce 70,000 tons of rubber yearly."

Members of the commission feel that steps might be taken by the government to encourage natives to plant rubber with their annual crops. Such a plan, it was explained, would be in harmony with the present land policy of the Philippine government, helping to solve the problem of inducing the so-called caingin farmer to become a permanent landholder. If carried out officials say it would increase the productive wealth of the islands.

"The capital cost of bringing European owned rubber plantations into bearing in the Middle East averages \$250 an acre," the report declared. "In the Philippines incomplete figures indicate a cost of from \$100 to \$200 an acre."

Officials said that production costs in plantations financed and managed by American interests might be considerably lower in view of the more efficient methods common to industry of this country. Labor conditions likewise are better in the Philippines than in other eastern centers, the report said.



## Extra Space Is Provided for Automobile Salon This Year

Over 110 Cars With Custom Bodies Will Be Shown—Added Room Allows 34 Additional Entries

NEW YORK, Aug. 15.—To meet the demand for space to exhibit motor cars de luxe at the Twenty-first Annual Automobile Salon, arrangements have been made to show 24 more cars than has heretofore been possible at the Commodore, New York, where this exhibition has been held for many years. The cutting of a new doorway from the main ball room has made available a suite of large private reception rooms and in addition there will be an overflow exhibit of or more cars downstairs in the hotel's main lobby.

The forthcoming Automobile Salon, the date of which is November 15 to 21, will include by a wide margin the largest exclusive exhibit of fine motor cars ever staged anywhere in the world. There will be more than 110 individual cars, each mounting a specially designed and built custom body.

Six nations, France, Italy, Belgium, England, Germany, and the United States, will be represented among the exhibits, which are: Amilcar, Brewster, Cunningham, Duesenberg, Isotta-Fraschini, Mercedes, Minerva, Renault, and Rolls Royce; exhibited by coachmakers, Cadillac, Franklin, Lincoln, Locomobile, Marmon, Packard, Pierce-Arrow, and Wills Sainte Claire. Special coachwork exhibits will be made by Brewster, Brunn, Derham, de Causse, Dietrich, Fisher, Fleetwood, Hollbrook, Judkins, Le Baron, Locke, Merrimac, Rollston and Willoughby.

Of hardly secondary interest will be the equally complete showing of the latest developments in body finishes, upholstery, equipment, and accessories. An outstanding feature will be the improvements in chassis engineering as found in the latest models of the worlds leading makers of high priced cars. Thus a record breaking attendance of motorists and of executives and engineers from the entire automobile industry seems assured.

## New Car Registrations in Iowa Ahead of Last Year

DES MOINES, Ia., Aug. 8.—Registrations of new cars in Iowa for the first six months of 1925 totaled 41,927, or 4,628 greater than the 37,299 which were registered during the same period of 1924. May was the only month which showed a registration less than the corresponding month of last year.

Registrations by months follow:

For 1925—January, 3,348; February, 3,579; March, 5,285; April, 12,956; May, 10,368; June, 6,391. Total—41,927.  
For 1924—January, 2,240; February, 2,611; March, 3,010; April, 11,888; May, 11,525; June, 6,025. Total—37,299.

Registrations in Polk county were slightly below last year. During the first six months of 1924, 2,768 new cars were

## Used Essex Axle Court Feature

MILWAUKEE, Aug. 15.—A matter of \$50 to \$80 difference in the price of the rear axle of a used Essex car saved Durbin D. Rosedale, deputy sheriff of South Milwaukee from being bound over to municipal court on a charge of manslaughter. The charge was dismissed by Judge Page when it was shown that the rear end of a used Essex car is valued at from \$70 to \$100.

Rosedale shot and killed Edward Drutkowski when he caught the youth and another young man removing the rear axle of a wrecked Essex automobile. Relatives of the slain boy insisted upon the arrest of Rosedale.

The state's contention was that Drutkowski at worst was caught committing only a misdemeanor, petit larceny, and that no officer was justified in such a case. The defense argued that Drutkowski's offense was larceny, a felony which justified the shooting. Theft of anything more than \$20 is larceny in Wisconsin.

registered, compared to the 2,766 registered this year during the same period. Truck registrations during the first six months were 212. During the same period last year, 252 new trucks were purchased in Polk county.

## Peerless Announces Price Reductions on Both Lines

CLEVELAND, Aug. 15.—The following price reductions on Peerless eights and sixes have been announced by Edward Ver Linden, president and general manager of the Peerless Motor Car Co.

### Peerless Equipped Eight

	Old Price	New Price
Four-passenger Phaeton.....	\$2,945	\$2,845
Seven-passenger Phaeton.....	2,990	2,895
Four-passenger Victoria.....	3,545	3,245
Five-passenger Coupe.....	3,595	3,295
Five-passenger Sedan.....	3,895	3,495
Seven-passenger Sedan.....	3,995	3,595
Limousine.....	4,195	3,795

### Peerless Six

	Old Price	New Price
Five-Passenger Phaeton.....	\$1,895	\$1,895
Seven-passenger Phaeton.....	1,995	
Sport Roadster.....	2,285	2,195
Five-passenger Coupe.....	2,495	2,295
Five-passenger Sedan.....	2,565	2,395
Seven-passenger Sedan.....	2,765	2,595
Limousine.....	2,925	2,695

## LEWIS PLANNING MOTORS

LOS ANGELES, Aug. 15.—Dave Lewis, racing driver who placed a Junior Eight Special second in the 1925 Indianapolis speedway classic, arrived last week in Los Angeles and is associated with Harry Miller in working out plans for the new 91-cubic-inch racing motors that are shortly to be offered to speed fans the world over.

## Ford Completes Purchase Of Stout Airplane Assets

No Quantity Production Planned As Yet But Planes Will Be Used to Connect Plants

DETROIT, Aug. 15.—By completing the purchase of the Stout Metal Airplane Company today at a figure estimated to involve \$1,000,000, Henry Ford has added to the resources of his organization the latest and fastest mode of transportation. Operating as he does his own railroad and steamship lines, the airplane will fulfill certain requirements with which the other lines of travel are unable to cope.

Henry Ford is not expected to commence upon quantity production of the metal planes, but will continue to build the machines for the purpose of providing closer contact with the various assembly plants and the main offices. In this manner it is planned eventually to have a network of air routes which will link every assembly plant with Detroit and at the same time cover practically the entire country.

At the present time the airplanes operating daily between Detroit and the Chicago and Cleveland plants are employed in transporting official mail and certain small parts used in the assembly of the Ford cars such as headlights and other electrical equipment, tools, body parts, etc. Even with the precision of latest assembly methods, there are occasions when costly tie-ups arise through delays in receiving certain materials. By using air transportation the Ford Company will be able to ship to any of its assembly plants the necessary material, thereby relieving the situation and enabling production to be continued with little loss of time.

On July 31, the Ford Motor Company became a manufacturer of airplanes by purchasing all stock and assets of the Stout Metal Airplane Company. The building of the Stout monoplanes will henceforth be carried on by the Stout Metal Airplane division of the Ford Motor Company and operations will be continued at the Ford Airport, Dearborn, as formerly where four planes have already been built and others are under construction.

William B. Stout, who developed the present model after 15 years of experimentation, remains in charge of the plane manufacture, while the personnel of engineers, mechanics and pilots has also been retained. The association of the Stout Company with the Ford organization began less than 12 months ago when on completion of the airplane factory building at the Ford Airport, Henry Ford and Edsel Ford contributed to the development of the Stout plane, of which only one of the present type existed.

While Mr. Henry Ford has evinced a technical interest in airplanes, his enthusiasm has been confined to the engineering problems involved.

## Federal Reserve Sees More Than Normal Sales Volume

### Entire Industry Declared in Report to Be Showing Greater Activity Than Year Ago

WASHINGTON, Aug. 15.—The Federal Reserve Board in its August bulletin just made public here reports that "the automobile industry is enjoying continued activity at a fairly high rate."

"Production during June," continues the board's official resume of the automobile industry's standing, "although slightly less than in April and May, was greater than in the corresponding month of previous years, and the total output for the first six months of the year also established a new high record."

"About 350,000 passenger cars were produced in the United States during June, as compared with a maximum of 376,000 in April and with 214,000 in June, 1924. Truck production declined from 41,000 in May to 36,000 in June, but exceeded figures for any month of last year. Reports from the industry in July indicate further seasonal declines in production schedules; buyers are apparently waiting for the new models which are expected on the market soon."

"Shipments of automobiles in June were less than in May, but much larger than a year before. Certain large manufacturers, reporting to the Federal Reserve Bank of Chicago, indicated that their sales to dealers and dealers' sales to users during June were approximately equal to each other, whereas in April and May and in June of last year dealers received more cars than they sold. Wholesale distribution, according to certain Middle Western dealers, was less in June than in May, but more than double that for June, 1924. Retail sales increased as compared with both of the months with which comparisons were given. Stocks of cars held by dealers decreased."

"Crude rubber has continued its sharp price advance, and during July spot quotations reached \$1.20 a pound, as compared with about 20 cents a year earlier. Rather large reductions occurred later in the month. Imports continue to be large. Advances in tire prices, following previous increases on May 1 and June 1, were announced on July 1 and again on July 18. These prices are now about 35 or 40 per cent. higher than in April. Production and shipments of pneumatic tires during June attained new high records, and stocks which were on March 31 at the maximum ever recorded were reduced on June 30 to an amount smaller than that of a year earlier."

### OIL CO. GIVES DINNER

SPOKANE, Wash., Aug. 15.—A dinner and entertainment for 100 of its customers, the first of its kind given in Spokane, was tendered here recently by the Wesco Oil company to independent service station men and wholesalers. O. W. Schultz, president, was the host.

## Buffalo Offered 5-cent Fare System of Buses

BUFFALO, Aug. 15.—Ernest M. Howe, president of the Gray Manufacturing Co. of Detroit, has proposed to establish a city-wide bus system in Buffalo on a 5-cent fare basis allowing transfers. The city council is considering the offer.

Howe proposes to place 100 Tilling-Stevens type buses on the streets at any time his proposition is approved. These buses, manufactured at his Detroit plant, are the same type used in London, Australia and South Africa.

He explained that he is able to operate the buses on the low basis of return owing to the fact that they are operated by combined gas and electric motive power and require little maintenance expenditure. He claims that the bus will operate more than 100,000 miles without having to be housed for repairs. He added that the average gear-driven bus is useless after 300,000 miles.

Street car fare in Buffalo is 8 cents, or two for 15 cents. The trolley company also operates three bus lines charging a 10-cent fare. Howe agreed to meet the New York state public service commission regulations. He also offered to post a bond of \$150,000 to guarantee his good faith.

## July Sets Another Record For Apperson Co. Business

### Sales Volume Beats June Mark and Shows 225 Per Cent Advance Over January

KOKOMO, Ind., Aug. 15.—Celebrating the first anniversary of the factory reorganization of last July, the Apperson Automobile Company established a second record breaking sales mark in successive months with the close of July business.

Previously, the June, 1925 sales had exceeded all totals for any month of the year.

Sales for July, however, were greater than June, and 225 per cent above the mark of January—the month in which the new Apperson line was introduced. The mounting sales curve of this now strongly-entrenched manufacturing company is shown by the fact that while each succeeding month of the year showed healthy advances, June's increase was 219 per cent over the January figure and July went 225 per cent over.

In addition to the heavily increased sales in July, the month closed with an increase of 13 per cent in unfilled orders over the record June.

# 25 Years Ago In the Automobile Industry As Recorded In MOTOR AGE

(From MOTOR AGE of August 23, 1900)

### Gasoline on Ferries

NEW YORK, Aug. 20.—President Chamberlain of the Automobile Club of America is overrun with correspondence from all over the country on the question of the United States laws in reference to the carrying of gasoline on vessels plying on waters inside government jurisdiction. It has been held that a gasoline vehicle violates this prohibition. Mr. Chamberlain has been in correspondence with the Secretary of the Treasury with a view to securing some modification of the application of the law and the establishment of special regulations for vehicles employing gasoline for motive power or fuel. He says, however, that there is little chance of getting relief except through a special act of congress.

### One-Hour Motorcycle Championship

PARIS, Aug. 9.—The Motorcycle-tricycle championship for one hour was run at Lille on the fifth inst. The starters were Beconnais, Fossier, Demster, Vasseur, Loste, Cabaillet, Bathiat, and Louis. \* \* \* After a number of accidents, among which Beconnais was the only one to escape, the race was finished. The forty kilometers were ridden in 41:45 and the fifty in 52:36 3/5. At the end of the hour Beconnais has covered the 57 1/2 kilometers, nearly three kilometers ahead of Loste, who, in turn, was nearly a kilometer ahead of Demster.

### New Mackay Steam Carriages

BOSTON, Mass., Aug. 20.—Twenty-five of the new Mackay steam carriages have been turned out at the factory of the Stanley Mfg. Co., Lawrence, Mass. They have all been built to special order and several of them have been shipped to Europe.

They are all heavily built carriages, weighing about 1,650 lbs., against 700 lbs. average weight of the ordinary steam runabout. Their retail price is \$1,800.

The Mackay carriages have several notable features. The gasoline tank is immersed in the water tank. The engine is simple or compound and has a super-heating device.

### The Chicago Automobile Club

The Chicago Automobile Club has been organized with 33 members and already enough more applications have been received to swell the active list to 40. Among its objects, as stated in the constitution, are the promotion of an organization or club composed in whole or part of persons owning self-propelled passenger vehicles for personal or private use; to afford a means of recording the experiences of members and others using motor vehicles or automobiles and to promote original investigation in the development of motor carriages.



## Chemical Society Told Army Has New Type Truck Engine

**Radical Changes Giving More Power  
With Less Fuel Consumption  
Said to be Features**

LOS ANGELES, Aug. 15.—That the United States Army has developed a motor truck engine embodying radical changes from the usual type of internal combustion motor, which is reported to be able to deliver an increase of 28 per cent in power with a decrease of 20 per cent in fuel consumption, was the report given to the national convention of the American Chemical Society, in session in Los Angeles.

The convention was told that this motor was developed to meet the recently perfected ethyl gasoline, and will not use the standard fuel. With the specially treated gasoline it will outclass anything in its reach and will climb hills and pull exceedingly heavy loads with surprising ease, engineers say.

The new motor was developed at Camp Holabird, Md., by Arthur W. Harrington, chief engineer of the Motor Transport Division, Q. M. C. and other army engineers. The exact nature of the fuel to be used in this motor was not disclosed at the convention. It is known, however, that the gasoline intended for the motor is of the type treated with tetraethyllead. Only one fifteen-hundredth part of this chemical is added to the ordinary gasoline. One quart was used to treat 500 gallons of fuel, with such success that the army men interested in the test predicted eventual overthrow of present standards of motor construction, Chief Harrington declared.

The motor was built of parts used in government Class B. trucks. To outward appearance it is exactly like the old type of truck, but internally it has been redesigned to work under pressure terrifically greater than the usual motor is required to withstand.

A statement by Dr. T. A. Boyd of the General Motors Research Laboratory at Dayton, O., on the subject of chemical research on automobile fuels, was made public by the American Chemical Society at the convention in connection with the development of the new type of motor.

If the chemists are able to develop a fuel that will increase the useful store of energy in the gasoline being burned by the motor from 3 to 5 per cent to approximately 10 per cent, the saving to motorists would mean an average of \$50 a year per registered vehicle, Dr. Boyd declared.

The search of the chemists for such a fuel was partly rewarded, Dr. Boyd stated, in the perfection of the ethyl gas. Ethyl gas, he explained, is gasoline to which has been added a small fraction of 1 per cent of a synthetic oil containing a metallic component, which serves the purpose of combustion governor.

Another discussion at the American Chemical Society's national convention which will be of interest to the automo-

## A. A. A. Sanctions 102 Races

WASHINGTON, Aug. 15.—A total of 102 automobile races were sanctioned by the Contest Board of the American Automobile Association during 1924, it is announced. These covered speedway and dirt track events as well as hill climbing, reliability and endurance tests. During 1924 the Board distributed \$332,433 in prize money to the knights of the "Roaring Road" with 560 racing drivers and 335 racing cars registered.

tive industry was led by Dr. Harrison Howe, of Washington, editor of Industrial and Engineering Chemistry, the official organ of the society.

"Methanol, a new form of fuel developed by the Germans, may take the place of gasoline in time," said Dr. Howe. "This field, which is derived from elements that are among the most abundant in nature, possesses all the properties of wood alcohol, which is distilled from different kinds of wood, and may be used for the same purposes. About the only respect in which it differs is that it does not have the characteristic odor of wood alcohol.

"The Germans are carefully keeping the formula for methanol to themselves and are producing large quantities of it, exporting a good deal to this country."

Dr. Howe predicted that American chemists will eventually learn the secret and that the new fuel may some day become popular as a power producer.

## Marseilles Picked for Site of Next Year's Grand Prix

PARIS, July 28.—(By mail.)—Miramas track, near Marseilles, will be the scene of next year's French Grand Prix race, the probable date being June 28. This event will be open to 91½ inch cars with super-chargers, having two-seater bodies of 31 inches width, but with the driver only aboard and a minimum weight of 1,543 pounds. These rules will apply to all the big European races.

The present European rule calling for two seats side by side is giving dissatisfaction among firms indulging in racing. Just before the French Grand Prix, Bugatti threatened to withdraw all his cars because of the official interpretation of the rule regarding two-seater bodies. All difficulties could be overcome by merely requiring a minimum width without any stipulation as to the number of seats.

It is reported that the Fiat and Delage companies are working on 91½ inch two-stroke super-charged racing engines, which will be entered in all important events next year. The Fiat racing department refuses to make any statement regarding its plans.

## Peerless Turns First Quarter Loss to Gain in Second Period

**Sales Increases Run Far Ahead of  
Those of Industry As Whole—  
August Seen As Big Month**

CLEVELAND, Aug. 15.—The Peerless Motor Car, of this city, turned a loss of \$280,514 in the first quarter of the present year into a profit of \$327,234 in the second quarter, and at the same time paid off \$1,000,000 in bank loans in the first six months of 1925. A small six cylinder car is to be added on October to the present line of sixes and eights. These are the important points in a report just issued by the company.

Since February a steady, month by month gain in Peerless sales has been accomplished. While retail trade, as a whole, has been running 13 per cent above last year during the last month Peerless sales have been practically doubled, according to Charles A. Tucker, sales manager. Not only has there been a big increase at the principal distributing points, but there also has been marked interest in the Peerless franchise, more than 90 new distributors and dealers having been added during the last five months.

June sales were 75 per cent higher than in the same month last year. In July they were 154 per cent greater than in July, 1924. Orders on hand for August indicate clearly that Peerless will continue to operate at a far greater increase over the preceding year than the industry as a whole, says Tucker.

These sales conditions are reflected in the six months statement. Net profits of the company for the half year after \$86,774 depreciation were \$46,719, but earnings in the second quarter which was the first three months period to really reflect the efforts of the present management, were at the annual rate of \$6 per share on 228,589 shares of common stock. The company has no bonds or preferred stock.

In addition to paying off \$1,000,000 to the banks, the balance sheet shows \$996,715 in cash. On December 31, the company had \$728,225 in cash, but owed \$418,287, so there has been an actual gain of \$1,686,777 in cash.

## 1,015,100 CARS TITLED

CHICAGO, Aug. 15.—Statistics compiled from the records of the automobile department of the secretary of state's office, show that from January 1 to July 15, there were 1,015,190 registration licenses issued to passenger automobiles in Illinois. In addition there were registrations issued to 4,332 dealers, 5,449 motorcycles, and 146,114 trucks, making a grand total registration of 1,171,085. The total revenue received by the department during this period was \$12,110,777.03.

## A. P. I. Report Denies Belief In Exhaustion of Oil Supply

### Survey Submitted to Conservation Board Shows Unexploited Stores Sufficient for Years

NEW YORK, Aug. 15.—A reassuring report as to the supply of petroleum in the United States prepared by a committee of eleven of the directors of the American Petroleum Institute was transmitted to the federal oil conservation board at Washington yesterday by J. Edgar Pew, president of the institute.

The report states it is reasonable to assume that the oil resources of the United States, including oil from wells, shale, coal and lignites, assure the country of a sufficient supply of motor fuel and lubricants for the national defense and for essential uses beyond the time when science will limit the demand by developing more efficient use of, or substitute for oil, or will displace its use as a source of power by harnessing a natural energy.

The 300 page report prepared after a country-wide and prolonged survey by many operators and by experts and scientists within and without the industry embraces estimates of the future supply of and demand for petroleum and contains conclusions of far reaching importance to the country. The conclusions negative the idea that there is imminent danger of the exhaustion of the petroleum reserves of the United States. The report estimates petroleum recoverable by present methods of flowing and pumping from existing wells, and acreage thus proven, to be 5,300,000,000 barrels and that after pumping and flowing cease there will remain in the area now producing and proven 26,000,000,000 barrels of oil, a considerable portion of which can be recovered by improved and known processes.

The report indicates that the major oil reserves of the United States lie in some 1,100,000,000 acres of land underlain by sedimentary rocks and not fully explored, in which geology indicates oil is possible. With extended search, new supplies will be found therein. In addition the report states that improved methods of deep drilling, the limit of which has not been reached, will disclose in many areas deposits not hitherto available. It is pointed out that the nation has an additional reserve in the vast deposits of oil shale, coal and lignites from all of which liquid fuel and lubricants may be extracted if and when the cost of recovery is justified by the price of these products. It is stated that these deposits are so huge that they promise, under conservative estimates, an almost unlimited supply.

## CHRYSLER SALES HEADS NAMED

DETROIT, Aug. 15.—Appointment of three directors of sales and two assistant directors has been announced by J. E. Fields, vice-president in charge of sales for the Chrysler Corporation. The resignations of John J. Plath and Arthur T. Stanton as directors of sales to become Chrysler distributors at Miami, Fla., and Columbus, Ohio, were announced. The new directors are Joseph W. Frazer whose principal cities are New York, Detroit, Minneapolis, St. Louis and Dallas; J. L. Justice whose principal cities are Chicago, Philadelphia, New Orleans, Portland, Ore., Cleveland. His assistant will be John McArdle, formerly head of the car order division, and Henry T. Myers, formerly with the Studebaker corporation, whose principal cities are Boston, Pittsburgh, Atlanta, Kansas City, Mo., and San Francisco. His assistant will be S. W. Monroe, formerly supervisor of sales for the Chrysler Corporation in the Boston district.

## FRENCH TIRES RAISE

PARIS, July 29.—(By mail.)—French tire manufacturers today announced an increase of 35 per cent on tubes and 27 per cent on casings, to go into effect immediately. This measure had to be taken, it is declared, on account of the shortage of rubber and the consequent increase in cost. Michelin is of the opinion that the price of raw rubber will drop before the end of the year, and that, as a consequence, tires will be reduced.

## NEW VELIE DEALERS

MOLINE, Ill., Aug. 15.—The following have been named dealers by the Velie Motors Corp.:

Petaluma Velie Company, Petaluma, Cal.; Lyter's Garage, Harrisburg, Pa.; Grover C. Taggart, E. St. Louis, Ill.; Henry's Garage, Wilmington, N. C.; Leslie B. Harriman, Gorham, N. H.; R. E. Twite, New Albin, Ia.; J. W. Hook, Grays Lake, Ill.; P. C. Sacchi, Arcata, Cal.; Smith Brothers, Lemon Springs, N. C.

## Ford Truck and Tractor Sales Rise During July

DETROIT, Aug. 15.—Sale of Ford one-ton trucks and Fordsons for the first 20 days of July were 30 and 43 per cent greater than for the same period a year ago, reports received at the Ford factory from Ford dealers throughout the country show.

Sales of the one-ton truck amounted to 12,168 during the 20-day period, an increase of approximately 3,650 over the first 20 days of July, 1924. Fordson sales numbered 3,664, or approximately 1,575 more than for the same period last year.

The greater portion of the truck sales covered industrial installations but there also was a noticeable increase in deliveries in rural sections where harvesting of crops is under way or just beginning. The increase in the number of Fordson sales indicates that the farmers are coming into the buying market in larger numbers.

## Increased Sales Cause Cut In Studebaker's List Price

### Financial Report Shows Business Volume Jumped 48 Per Cent In Second Quarter

SOUTH BEND, Ind., Aug. 15.—Greatly increased sales resulting in economies of production, have caused reductions in prices on all Studebaker models, it is announced by officials of the Studebaker Corporation of America.

The financial report for the second quarter shows that sales increased 48 per cent over the corresponding period of 1924. It is believed that July sales will show a gain of 200 per cent over July last year.

The new prices announced by the company are:

### Standard Six Models

	New Price	Old Price	Sav- ing
Country Club Coupe.....	\$1295	\$1345	\$ 50
Coach .....	1195	1295	100
Sedan .....	1495	1595	100

### Special Six Models

Duplex-Roadster .....	\$1395	\$1450	\$ 55
Sport Roadster .....	1595	1645	50
Duplex-Phaeton .....	1445	1495	50
Coach .....	1445	1595	150
Brougham .....	1695	1795	100
Victoria .....	1750	1895	145
Sedan .....	1895	2045	150

### Big Six Models

Duplex-Phaeton .....	\$1795	\$1875	\$ 80
Coupe .....	2045	2450	405
Brougham .....	2195	2575	380
Sedan .....	2245	2575	330
Berline .....	2325	2650	325

## Moline Tractor Plant to Be Used by I. H. C. as Warehouse

MOLINE, ILL., Aug. 15.—Although industrial and banking circles here last week circulated apparently well authenticated stories that the International Harvester company was to purchase the tractor plant in Rock Island, owned by the Moline Plow company, now the Moline Implement Co., Alex Legge, president of the International, said that only negotiations were under way for the deal and that the plant is to be utilized as a warehouse.

Industrial circles, however, had been informed that the International was going to rehabilitate the plant which had been closed down two years and reopen the production operation. The plant has a storage space of 425,000 square feet and has been on the market since the Moline Plow under its reorganization adopted a policy of severance of all outside units and non-profitable lines. At one time it was a center of production activity but under the agricultural implement depression became a liability.

Mr. Legge announced that under his plan the factory will be an assembly warehouse to handle distribution in this territory. Parts are to be shipped in in carload lots, assembled and reshipped to north and west territory.



## Willys-Overland Production In First Half Sets Record

**President of Company Believes  
Business Is Due to Complete  
Line of Cars Produced**

TOLEDO, Aug. 15.—With production of 109,394 cars in the first six months of the present year the Willys-Overland Co. of this city has broken all records for a similar period in the history of the company.

This is more than 10,550 cars increase over the first six months of 1924 and is within 40,000 of the entire 1924 production.

President John N. Willys attributed the big business of this year so far to the complete line of cars produced, the response from dealers, and the reception from the public of new models and new ideas in the line.

"Despite the ugly rumors of the early spring months that agriculture, our basic industry, forecast an unusually small yield in all crops of importance, the retail organization found that never had business been better," declared President Willys.

"Our car shipments the first six months of 1925 absorbed practically our entire output, and throughout this period we found that despite our sincere attempts to bring production schedules up to the insistent demand of the dealers for more cars, we could not build them fast enough.

"We were constantly behind on our deliveries, and our production still is below our orders in hand.

"I am firmly convinced, not only from our own sales and production records, but from the generally firm tone of business conditions that 1925 will see the 'bumper' year in the automobile industry."

### NEW RECORDS IN MILWAUKEE

MILWAUKEE, Aug. 15.—Automobiles and accessories continue to be the most active in Milwaukee's industrial and business circles, according to analysis of business conditions for mid-summer completed by Robert Wittig, Milwaukee manager for R. G. Dun & Co. The investigation indicates that the automobile industry in both its manufacturing and retail end is setting new records in Milwaukee.

### FORD CHANGES RADIATOR

DETROIT, Aug. 15.—The Ford Motor Company of Canada, Ltd., is now equipping all closed cars with nickel plated radiators and radiator aprons. The change was designed to give a better finish to the car and is in line with the company's policy of altering the car to meet with the demands of the public. While the new radiator has only been on the market a short time, the manner in which it has been received by automobile owners is taken by officials of the company to mean that its advent will be a popular one.

## Car Hazard Less Than Rail

WASHINGTON, Aug. 15.—Statistics proving that the railway hazard on a mileage basis is nine times greater than the automobile hazard were made public here this week by the American Automobile Association.

That the hazard on a mileage basis as between trains and automobiles is correctly stated will be seen from the following figures: In 1923, the last year for which complete figures are available, railway accidents accounted for 6,922 deaths and 56,464 injuries, a total of 63,386 killed and injured. The total train mileage, freight and passenger, for 1923 was 1,191,397,000, showing that in round numbers there was one accident for every 18,000 miles.

In the same year the accidents in which motor vehicles figured accounted for 17,000 deaths and 500,000 injured, a total of 517,000. The total motor vehicle mileage for the year is estimated at 85,000,000,000 miles. This would mean one motor vehicle accident for every 160,000 miles. Thus on a mileage basis the railway hazard is nine times greater than the automobile hazard.

## Illinois Registrations Jump 32 Per Cent During July

CHICAGO, Aug. 15.—Registration statistics covering new passenger cars in Illinois during July reveal that there was a gain of 32 per cent in the total as compared with the preceding month. This is not surprising in view of the fact that many people usually wait until July 1 before registering in order to take advantage of the semi-annual fee.

The most pronounced advance was in the medium price class with a jump of 37 per cent; Fords were 31 per cent ahead of June, while low-priced cars (excluding Fords) and the high-priced vehicles scored gains of 26 and 25 per cent respectively.

Following are the detailed figures for the first seven months of 1925:

	Low, ex.				
Mon.	Fords	Fords	Med.	High*	Total
Jan.	4,060	2,275	5,748	808	12,891
Feb.	3,424	1,718	4,977	612	10,731
Mar.	5,714	2,729	6,416	784	15,643
April	9,010	3,755	8,801	861	22,427
May	8,751	3,644	8,014	899	21,308
June	6,473	3,400	6,383	828	17,084
July	8,499	4,305	8,787	1,035	22,626
Total	45,931	21,826	49,126	5,827	122,710

\*Includes miscellaneous cars not named.

The foregoing statistics were compiled from figures furnished to MOTOR AGE by Robinson's Advertising Service, Springfield, Ill.

## Rickenbacker Output Makes Big Increase in First Half

**Shipments Now at Rate of 70  
Daily—Total Expected to  
Double Last Year**

DETROIT, Aug. 15.—Rickenbacker Motor Car Company during the first half of 1925, shipped 6,100 automobiles as compared to 5,412 for 1924.

Shipments are at the rate of 70 daily which, with present indications and prospects will make between 12,000 and 15,000 for the year. Last year the total was 7,187.

Production is also on the increase 1,450 being the July output. In February it was 700, this number being gradually increased until the present time. July output will be the largest this year.

Hudson-Essex is now operating on a schedule of 865 Essex and 425 Hudson cars daily. July production was close to 30,000. Factory enlargements now being made will enable the output to be 1,500 and later 2,000.

July shipments of cars reached 27,000 and with indications pointing to 30,000 for August. The company probably will report sales of 87,000 for the quarter ending August 31.

The increased output is due to the building of the new Hudson-Essex body plant of the company. The building will be one of the most modern of its kind and will be especially designed for the production of Hudson-Essex cars. The company will continue to take the present output of the Briggs Manufacturing Company which is now building its bodies.

### WILLS SAINTE CLAIRE DEALERS

MARYSVILLE, Mich., Aug. 15.—Dealers who have recently taken on the Wills Sainte Claire line are:

W. P. G. Motor Company, Atlantic City, N. J.; Ayer and Ayer, Inc., Worcester, Mass.; Wills Sainte Claire Company of Greensburg, Greensburg, Pa.

### OVERLAND MEETING HELD

QUINCY, Ill., Aug. 15.—Distributors of the Overland car in the western Illinois and northern Missouri territory, assembled here recently. About 25 counties were represented. W. O. Kiracofe of St. Louis, branch manager; O. S. McKinney, wholesale manager; Frank Whyte, sales promotion manager; W. T. Warner, zone supervisor; and T. S. Doby of the wholesale department, were among the factory representatives present. Reports were received from the various districts represented concerning the business for the first half of the year, and the prospects for the fall and winter. With the prospects for a bumper crop of corn, and wheat and oats threshing yields far above expectations, an era of agricultural prosperity seems certain in this section, and the dealers who assembled here felt encouraged over the outlook for the remaining months of the year.



# Along Automobile Row



**SAN ANTONIO, Tex.**—The Crawford Motor Company, Ford and Lincoln dealers, has occupied its new \$200,000 home at 209-517 West Houston street. The building is two and one-half stories high and houses 38,000 square feet of space. In addition to usual spaces for accessories and parts, shops and sales departments, the company has installed a used car department on the roof of the building.

**GREENWOOD, Miss.**—G. M. McDavid of Memphis, and W. R. Moore of Cleveland, composing the Moore-McDavid Company, have secured the Buick agency for the Greenwood territory.

**OTTAWA, Ill.**—Dayton Keith of Chicago and L. S. Putnam and W. G. Putnam, both of Ottawa, have organized the Putnam Chevrolet Company of this city. Capital stock has been fixed at \$10,000.

**DeQUEEN, Mo.**—The Stringfellow Motor Company of this place, local Ford dealer, has been purchased by W. L. Davies, who will continue the business under the name of the Davies Motor Company.

**MILWAUKEE.**—The Alemite Lubricator Co. of Wisconsin has moved to new and larger quarters at 582-584 Jefferson street, the former home of the Harry E. Weber, Inc., wholesale automotive supply dealers. One of the finest lubricating service stations in Wisconsin will feature the new home of the Alemite organization.

**ATLANTA.**—The semi-annual conference of dealers, distributors and salesmen in the southeastern territory for the United States Rubber Co. was held in Atlanta at the Biltmore Hotel the latter part of July, and merchandising plans of the company outlined for the fall and winter months.

**CHICAGO.**—R. B. (Dick) Thornton, who has been associated with the automobile industry for a number of years, first as a member of the transportation division during the World War, then in the distribution of automobiles with J. W. Leavitt of San Francisco, as assistant sales manager of Durant Motors, vice-president and general manager of the W. C. Auble Motor Co., territory man for C. E. Gambill, Hupp distributor of Chicago, then manager of the Studebaker branch at Cleveland, has become manager of the Chicago branch of the Peerless Motor Car Company.

**PALMER, Mass.**—Michael Cavanaugh, formerly of Sullivan's Garage, has opened a salesroom for the Hudson and Essex in the Madura Block.

**DETROIT.**—The Universal Parts Company of Lansing, Michigan, recently completed remodeling and enlarging its quarters to permit the taking care of its increased business. It recently installed a complete line of Republic gears and other accessories.

**NEW ORLEANS.**—G. G. Chambers, formerly Durant factory representative and now president of the Chambers Auto Sales Co., Inc., Star dealers in Hammond, La., has extended the activities of his company to include the agency for Star and Durant cars in Baton Rouge, La., by taking over the Nordyke Motor Co., Inc., of the capital city.

**MINNEAPOLIS.**—Manager W. V. Harrington of the Harrington Motor Car Co., Minneapolis, has appointed the A. E. Arney Co., International Falls, Minn., to handle the Hupmobile in that territory. The company had the agency several years ago under Duluth, Minn., management.

**NEW ORLEANS.**—The Hoffman Schiro Motor Car Co., 1615 Canal street, distributors for the Chandler announced recently the appointment, as associate dealer, of F. A. Ahrens, Inc., 720 Carondelet street, New Orleans.

**HOLYOKE, Mass.**—J. Allen McGarry has been appointed sales manager of the Barnes Motor Sales Co., Chrysler dealer. He formerly held a similar position with the Pickup Motor Co.

**MONTREAL.**—L. E. Robin, of Robin Freres, 3845 Park avenue, announces that he has acquired the local representation for the Diana 8, a new car manufactured by the Moon Motor Car Co., for the Diana Motors Company.

**ST. LOUIS.**—The Merchants Tire & Battery Co. has moved from 1111 North Twelfth street to 2710 Washington boulevard. The old location will be used as a garage for passenger cars and trucks.

**SPOKANE, Wash.**—George L. Bryan and I. M. Logsdon, until recently with the March-Strickle Company in Spokane, have begun business as the Walla Walla Nash Company at Walla Walla, Wash., and will handle a complete line of 1926 Nash and Ajax cars.

**DETROIT.**—Victor H. Findlay is the new manager of the Genesee-Durant Company, Flint, Michigan. He succeeds W. S. Cook. Previous to being associated with Durant Motor Corporation, Mr. Findlay was associated with the Studebaker Corporation.

**MINNEAPOLIS.**—R. L. Stevens of Detroit, manager of service for the United Motors, Inc., is superintending opening of new quarters for the Minneapolis branch at 28 Tenth street S. The company will move from 10 Tenth street S., a few doors to double its space. G. E. Hall is manager of the branch.

**DES MOINES.**—The Harris Auto Supply Co. has opened a branch at Omaha. A location at 2112 Harney street has been leased for salesroom and warehouse. R. B. Hammill will be in charge of the Omaha branch.

**CLEVELAND, O.**—Papers have been filed with the secretary of state, chartering the Northeast Ignition Co., with a \$10,000 capital to do a general automotive ignition and repair business.

**CHARLOTTE, N. C.**—Charlotte Hudson Company has been organized at Charlotte to engage in the retail sale of Hudson and Essex motor cars. B. D. Heath Motor Company, of Charlotte, distributor for this territory, will maintain its retail department.

**ATLANTA.**—The Kant-Grab Manufacturing Co., of Nashville, Tenn., manufacturers of accessories, announces the recent appointment of R. D. Murray as a member of the company's traveling sales forces. Mr. Murray has been an accessory salesman calling on the retail trades in the Southeast for some years.

**MILWAUKEE.**—Jack Weiner, president of the West Point Garage & Sales Co. of Milwaukee, has announced that in future his company will handle Overland and Willys-Knight motor cars exclusively.

**LANSING, Mich.**—A. J. Shaw, sales manager of the Duplex Truck Company, announces the appointment of M. W. Estabrook as assistant sales manager. Prior to becoming associated with the Duplex company Mr. Estabrook was connected with the sales department of the Flint Motor Company, in charge of advertising sales promotion and publicity.

**SPRINGFIELD, Mass.**—New York Tire Jobbers has opened a store at 326 Dwight street. C. Pallot is manager.

**CHICAGO.**—The Mar Tan Motor Manufacturing Co. has purchased a plant in Milwaukee, formerly owned by the Milwaukee Timer Co. This addition will give the Mar Tan Motor Manufacturing Co. much needed space, enabling it to handle business which could not be accepted at the old factory.

**LIMA, O.**—Gramm & Kincaid Motors, Inc., has opened up exclusive export offices in charge of William Paul Neth at 44 Whitehall street, 6 State street, Station P, New York City.

**DETROIT.**—A. J. Walter has resigned his position as retail sales manager of the Reo Michigan Sales, Inc., to enter the automobile insurance field representing the Motor Insurance Exchange of Detroit in Lansing.

**SPOKANE, Wash.**—The Western Auto Supply company's branch in this city has moved to new quarters upon the completion of a new building in the heart of the business district. The company occupies the lower floor of the structure, which have been fitted out especially for the display of automobile accessories.

**MOLINE, Ill.**—Arthur O. Roberts, assistant advertising manager of the Velie Motors corporation for the past year, has resigned this position and has joined the advertising staff of the Miller Rubber Company, Akron, Ohio, as a copy writer. Mr. Roberts was succeeded by Max H. Romig, formerly advertising manager with the Barnard & Leas Manufacturing Company of Moline, makers of milling supplies.

**CARTHAGE, Mo.**—H. E. Stevens of Joplin has been appointed manager of the Jamison-Weise company's Hudson-Essex sales and service establishment.

**DETROIT.**—Milton D. Straus has been appointed assistant to the president of the Gray Manufacturing Company (formerly the Gray Motor Corporation). Mr. Straus will be in charge of sales, advertising and service for the passenger car division of the business.

**KANSAS CITY, Mo.**—Joseph F. Reed, for five years of the sales force of the Tate Motor Company, has become sales manager of the Mapel Engineering Company, 416 North Third Street, which manufactures gasoline gages for automobiles and filling stations and oil burners for homes.

**MILWAUKEE.**—The Foyer Motor Co. of Milwaukee, Buick dealers, is erecting a \$20,000 salesroom and garage at 891 Teutonia avenue.

**CHICAGO.**—H. L. Gillette has joined the Chicago branch of the Federal Motor Truck Company as sales manager. He has resigned as manager of the GMC truck branch in Milwaukee.

**ROCKFORD, Ill.**—The contract has been let for a new garage for the Velie Motor Company at the corner of Oak and May streets to cost \$30,000.

**NORWOOD, O.**—Papers have been filed with the secretary of state chartering the Economy Chevrolet Sales Co., with an authorized capital of \$35,000 to buy, sell and service automobiles and accessories.

**SPOKANE, Wash.**—C. W. Wells, president of the Wells Chevrolet company, announces plans have been prepared for two-story building and the remodeling of the present quarters, to be completed early in October. Leases on the properties and the cost of buildings involve an investment of upward of \$126,000.

**DELVAN, Wis.**—G. A. Oldenburg, J. E. Ralston and F. W. Oldenburg have organized the S-L Chevrolet Sales Co. here with capitalization of \$25,000. In addition to dealing in Chevrolets they will conduct a general garage business.

**NASHVILLE, Tenn.**—H. C. Miller, Jr., who formerly owned the Auto Painting & Supply Co. of Nashville, sold his interest in the business recently and joined the Imperial Motor Car Co. of Nashville, as a salesman. The Imperial company distributes the Hudson and Essex line in part of the Tennessee territory.

**CHICAGO.**—C. C. Goodwyn is now sales manager for the Chicago Packard branch, succeeding R. E. Macduff, whose assistant he was. Mr. Macduff has become eastern district manager.

**PALMER, Mass.**—W. C. Moulton has been appointed Ford dealer and has opened an establishment in South Main street.



## With the Associations

### Parts Association Program

DETROIT, Aug. 15.—A program to include a standardized system of bookkeeping, inventory and accounting for parts jobbers members of the National Standard Parts Association was adopted by the merchandising committee of the association at its recent meeting in this city.

Besides serving the individual members and helping them to keep a better check on their store supplies, the system will serve as an aid for the association in gathering data which the association intends to use in its educational campaigns.

A convention and product show to be held in Chicago November 5 to 7 was decided upon by the board of directors. The show will be a regular exhibition of standard products and will be for members only and those outside of the association who receive invitations. One of the nights will be open to those not belonging to the association.

T. B. Blackiston, member of the board of directors and chairman of the merchandising committee, tendered his resignation and was succeeded on the board by D. W. Rogers of the Federal Mogul Corporation and by Sim T. Moe who is the new chairman of the merchandising committee.

### Pennsylvania Meet Planned

HARRISBURG, Pa., Aug. 15.—A get-together meeting of all the secretaries and officials of all the local city and county automotive associations in Pennsylvania, will take place during the fifth annual Business Congress and Frolic of the P. A. A. in Pittsburgh, Oct. 12, 13 and 14.

Talks by managers of many dealer organizations will be heard and a round table discussion of local association problems of attendance, benefits, activities, shows and so on will take place.

These meetings will take place at the luncheon table both days of the convention and during the opening forum hour on Monday.

### St. Louis Outing Held

ST. LOUIS, Aug. 15.—More than 1,500 persons attended the eighth annual steamboat excursion of the Automobile Dealers' Association on the steamer J. S. recently.

There were 33 automobile dealers represented and every accessory house with a membership in the accessory association used tickets.

### Ft. Worth Salesmen Elect

FORT WORTH, Tex., Aug. 15.—Officers of the Fort Worth Automotive Salesmanship Association elected at the regular meeting are: Jack Harvey, president; Tom Lewis, secretary-treasurer; Bob Logan, vice president. The directors are Ned Boswell, Ike Sidebottom, George Ringler and H. E. Knight.

### Used Car Show Planned

CHICAGO, Aug. 15.—Details of the seventh annual used automobile show, under the direction of the Chicago Automobile Trade Association, are now being drafted. The show will be held at the Coliseum, October 10 to 17. These dates originally were scheduled for the enclosed car show, plans for which have been abandoned, because sanction could not be obtained from the National Automobile Chamber of Commerce.

It is believed that the show will prove more stimulating than usual, because of the time of year in which it will be held. On former occasions the exhibit has been held early in the summer.

The first used car show was held by the Chicago Automobile Trade Association in 1917 and it has been held each year since that time except in 1919 and last year. The public has been accustomed to automobile shows in the fall of the year and the exhibition this year is expected to afford dealers an unusual opportunity to move their stock when the market normally is dull.

The last exhibition was a profitable one for the exhibitors. Nearly \$500,000 worth of business was done during the week. The stringent regulations imposed by the inspectors of the show upon the exhibitors have given the public confidence in the worth of the cars shown. These conditions will again be imposed this fall.

### Knapp Leaves Iowa Body

DES MOINES, Ia., Aug. 15.—A. J. Knapp, who for the past six years has been identified with the Iowa Automotive Merchants' Association, has resigned his position as secretary-manager, his resignation to take effect September 1. Mr. Knapp is resigning from association work to associate himself with a large development project at West Palm Beach, Florida, where he will make his home.

Starting with the Iowa association at its inception in May, 1919, Mr. Knapp has seen it grow in number of membership and strength to become a power in the state. He was founder of the Motor Trades Bulletin, the official publication of the I. A. M. A., which has been of great help in diffusing information to the automotive trade of Iowa.

It is probable that Mr. Knapp's successor will be elected at the quarterly meeting of the board of directors, to be held at Waterloo, Ia., on August 20.

### Tradesmen Celebrate

SPRINGFIELD, O. Aug. 15.—Members of the Springfield Automobile Trades Association, composed of dealers, salesmen and mechanics, enjoyed an outing at Bryan park near Clifton. The outing started with a parade showing the various cars handled after which their party headed for Bryan park.

### Ohio Association Elects

COLUMBUS, O., Aug. 15.—A revamping and reorganization of the Ohio Automotive Equipment Association took place at a meeting of 16 wholesalers in Ohio at Columbus, recently. The organization has been existant for about six years but recently its activities were much limited and the leaders believed that strong organization should be made to cope with the many problems besetting the industry.

A committee on membership consisting of Otto Berger of the Julian-Bantlin Co., Cincinnati; Cecil Walker of the Hardware Supply Co., of Akron and Curtis Sohl of the Griswold-Sohl Co., Columbus, was named to secure all eligible firms as members. This committee started out at once on its membership campaign.

A resolution was adopted to co-operate with the Ohio division of the National Automobile Dealers' Association. A motion was adopted asking the A. E. A. to assign a field secretary to Ohio to have charge of activities in the Buckeye State.

It was decided to hold four meetings yearly and the next will be on October 15 and 16, the place to be selected later by the officers.

Officers elected were: C. E. Justus of the Justus & Parker Co., Columbus, president; T. C. Deardorff of the Toledo Rubber Co., Toledo, vice president; C. H. York of the York Supply Co., Greenville, secretary and Curtis Sohl of the Griswold-Sohl Co., Columbus, treasurer.

### Fight Parking Restrictions

LOS ANGELES, Aug. 15.—The Los Angeles Motor Car Dealers' Association has been conducting a determined campaign to bring about a revision of the drastic parking laws which have been in effect here for several months. The association has lined up the support of the entire business community in its fight and victory is in sight. Los Angeles business men declare that different surveys made by their firms conclusively proved that patrons who come in automobiles purchase more than five times as much in value as do customers who come by street cars or foot.

The resolutions adopted by the motor car dealers and the Downtown Business Men's Association set forth the doctrine that the automobile is a potent factor in the production of business and recommend that the business community stand behind any serious movement for the construction of parking garages in the central district as an additional step toward increasing parking facilities.

The Downtown Business Men's Association further went on record as being in favor of either cooperative effort or the use of private capital in the construction of such parking garages.

## System of National Roads, Touching All States, Planned

### More Than 70 Trunk Highways to Connect Every Capital, Included in Project

WASHINGTON, Aug. 15.—A system of interstate roads, known as United States highways, and touching every state capital, was agreed upon here at a session of the joint board on interstate highways. Final approval is to be given by the board, upon which they will be numbered and charted.

More than 70 roads are included in the system, forming a network over the entire United States. Thirty arterial routes were designated to traverse the country east and west, north and south, reaching virtually every point of historic and scenic interest.

Eight of the roads cross the Rocky mountains and extend across the continent; nine originate along the Gulf coast and terminate in Canada; another starts in northern Idaho and ends at Charleston, S. C., while one begins on the Pacific Coast and ends in southern Florida. One route runs the entire length of New England; another starts in Texas and runs across the Southwest and up the Pacific Coast to Canada.

The joint board consists of representatives of the U. S. Bureau of Public Roads and representative state highway officials, appointed at the suggestion of the American Association of State Highway Officials by the Secretary of Agriculture last February 25.

The first meeting of the board was held here on April 20 at which time tentative recommendations were made with respect to the color and form of direction and warning signs.

## Hudson-Essex Holds Sales Congress in Los Angeles

LOS ANGELES, Aug. 15.—A Hudson-Essex sales congress, attended by dealers from all parts of Southern California and Arizona was recently held in the headquarters of Walter M. Murphy Company, distributors, on the occasion of the visit here of Harry G. Moock, promotion sales manager of the Hudson Motor Car Company.

Moock pictured the "car of the future" as a low-hung, closed car, more graceful than machines of the past and steadier on the road.

"Once we needed big wheels and high-hung bodies," said Moock, "but with better roads, cars are coming down. People want easy riding in their cars and in the motor car business the public is boss.

"The coming cars will be hung low. The ideal car of the future will be a closed car; more reliable, more economical, simple in design, useful under all conditions, quiet and smooth running. This will apply to cars in general."

## Coming Motor Events

### Automobile Shows

Dallas, Tex.	Oct. 10-25
Annual Automobile Show, State Fair Automobile Building, under the auspices of the Dallas Automotive Trade Association. J. W. Connell, manager.	
De Pere, Wis.	Aug. 31-Sept. 21
Annual Automobile Show under the auspices of the Automobile Division of the Green Bay Association of Commerce.	
Fresno, Cal.	Sept. 28-Oct. 3
Fresno Motor Car Dealers Association. Fifteenth Annual Show in connection with Fresno District Fair.	
Grand Rapids, Mich.	Sept. 7-12
Grand Rapids Automobile Dealers Association, Seventh Annual Show in connection with West Michigan Fair, Wm. T. Morrissey, manager.	
Oklahoma City, Okla.	Sept. 26-Oct. 3
Annual State Fair and Exposition. Passenger cars and accessories.	
Sacramento, Cal.	Sept. 5-13
Automobile Exhibits in Diamond Jubilee State Fair.	
Shreveport, La.	Oct. 24-Nov. 8
Twentieth Annual State Fair showing passenger cars, trucks and tractors.	
New York	Nov. 15-21
Twenty-first Annual Automobile Salon.	
Wheeling W. Va.	Sept. 7-12
Wheeling Automobile Dealers Association, Eleventh Annual State Fair, Exposition Building.	
White River Junction, Vt.	Sept. 15-18
Nineteenth Annual Twin State Fair. Passenger cars, trucks and accessories. F. L. Davis, manager.	
Chicago	Jan. 30-Feb. 6
Twenty-sixth Annual National Automobile Show and Eleventh Annual Automobile Salon.	
Danbury, Conn.	Oct. 5-10
Eight annual fair, Danbury Fair Auto Building, under direction of Danbury Agricultural Society, passenger cars, trucks, tractors, accessories, etc., H. Lage, manager.	
Boston	Oct. 10-17
World's Rubber and Tropical Exposition, Mechanics Hall, Chester I. Campbell, manager.	
Chicago	Sept. 28-Oct. 3
Fourteenth annual Safety Congress and Exhibit, Rainbow Room, Hotel Winton, under direction of National Safety Council, A. M. Smith, business manager.	
Salt Lake City	Oct. 1-7
Third annual Automobile Show and forty-seventh annual State Fair in Coliseum Building, Wm. D. Sutton, supervisor of Automobile Show.	
San Francisco	Aug. 22-28
Third annual Pacific Radio Exposition in Municipal Auditorium.	
Boston	Oct. 12-17
Annual radio show in Mechanics' Building. Shelton Fairbanks, manager.	
New York	Sept. 18-19
Meeting of National Battery Manufacturers' Association at Commodore Hotel.	

### Foreign Shows

Berlin, Germany	Nov. 26-Dec. 6
Annual Automobile Show in the Kaiserdamm.	
Buenos Aires, Argentina	Oct. 3-13
Pan-American Road Congress.	
London, England	Oct. 8-17
Olympia Passenger Car Show.	
London, England	Oct. 29-Nov. 7
Annual Truck Show.	

### Races

Altoona, Pa.	Sept. 7
Charlotte, N. C.	Nov. 11
Fresno, Cal.	Oct. 3
Laurel, Md.	Oct. 10
A. A. Race, Baltimore-Washington Speedway.	
Los Angeles, Cal.	Nov. 26
Monza, Italy	Sept. 6
Italian Grand Prix Race.	
Syracuse, N. Y.	Sept. 19
Salem, N. H.	Oct. 12
Rockingham	Oct. 17
Baltimore	Oct. 24

### Conventions

Buenos Aires, Argentine	Oct. 3-13
Pan-American Road Congress.	
Cleveland	Sept. 14-19
Annual Convention and Exposition of American Society for Steel Treating.	
Cleveland	Sept. 15-16
S. A. E. production meeting and exhibition.	
Des Moines, Ia.	Nov. 12-13
Automotive Merchants' Association Convention.	
Montreal, Que.	Oct. 7-10
Fall convention of the Motor and Accessory Manufacturers Association.	
Philadelphia	September
S. A. E. Automotive Transportation meeting.	
Pittsburgh, Pa.	Oct. 12-14
Pennsylvania Automotive Association Convention.	
St. Louis	Nov. 17-19
Annual Convention of National Tire Dealers' Association.	
Eaglesmere Park, Pa.	Sept. 14-17
General meeting of the Automotive Electric Association.	
Wrightsville Beach, N. C.	Sept. 7-8
Annual meeting of the North Carolina Automotive Trades Association.	
Montreal	Oct. 13-14
Convention of the National Association of Automobile Insurance Companies.	



## Contracts Sent Out For Annual A. E. A. Exhibit

Show Will be Held at Coliseum in  
Chicago, Nov. 9-14 in Con-  
nection With Yearly Convention.

CHICAGO, Aug. 17.—Contracts have been sent out for the seventh annual exhibit of the Automotive Equipment Association which will be held at the Coliseum in Chicago, November 9 to 14, inclusive.

Assignment of space to the various applicants whose contracts have been accepted will be made at the Congress Hotel, Chicago, at 10 a. m., Thursday, September 24.

This year's A. E. A. show, which will be held in connection with the association's annual convention, will be conducted under practically the same rules as last year. The show is exclusively for the trade and admittance will be by ticket or invitation. Tickets are issued to all jobber members of the A. E. A. and their salesmen, and invitations will be sent to a selected list of automotive wholesalers outside the A. E. A. membership. This list has to have the approval of the association. The exhibitors will be the manufacturing members of the A. E. A.

This year a special effort is being made to have a large attendance of automotive distributors and wholesalers from foreign countries. About 1,500 invitations were sent out to the trade in countries other than the United States and Canada early this summer. For several years there has been a growing interest in the A. E. A. show on the part of foreign automotive merchants and it is the belief of the association members that this exhibit can be used to create a large export trade for automotive manufacturers.

## Paige Sales and Net Income Set High Mark in 6 Months

DETROIT, Aug. 15.—Both in sales volume and in net income, the Paige-Detroit Motor Car Company achieved new high marks for the half year ending June 30.

The sale of Paige Jewett cars totalled 24,002, representing a net sales total of \$38,077,326.66. The cost of selling was \$33,512,887.58. The net income after deducting general expenses, miscellaneous charges and federal income tax was \$1,892,979.18.

This amount is further reduced by deducting \$77,770, the amount paid in two quarterly dividends on the outstanding 7 per cent preferred. The owners of common stock of record June 30 also received a 10 per cent dividend distributed July 15.

After transferring net income for the first half of 1925 to the balance of \$7,516,992.12, representing common stock and surplus as of December 31, 1924, to which was added \$35,676.89, derived from adjustment of federal income tax for 1924, and \$2,542.41 received in liquidation of

## SQUEEKS and RATTLES

### DARE-DEVIL



"Is she a good driver."  
"I should say so. She's already driven  
four husbands quite crazy."

—London Mail.

### Experience de Luxe

Charlotte—What kind of a car has  
Tom?

Martyne—A pray-as-you-enter!

If the majority really ruled, the loco-  
motives would have to stop at the cross-  
ings for the flivvers.

—Arkansas Gazette.

### Jack and Jill

Sped up a hill,  
A curve up there was sharp.  
The car upset;  
Jack's rolling yet;  
Jill's playing on a harp.

—University Life.

Policeman (producing notebook)—  
Name, please.

Motorist—Aloysius Alastair Cholmon-  
deley Cyprian—

Policeman (putting book away)—  
Well, don't let me catch you again.  
—Punch.

"My sister's like a radio program."  
"How's that?"  
"Anybody can pick her up."

—Western Weekly.

### Revenge!

Motorist—That man I ran over is the  
meanest man in town.

Friend—Why?

"He puts tacks in his pockets when  
he crosses the street."

—Judge.

Here lies the remains of a radio fan.

Now mourned by his many relations;  
He went to a powder mill, smoking his  
pipe,

And was picked up by twenty-one  
stations.

—Williams Purple Cow.

In Derby, after a narrow escape from  
being knocked down by a motor car, a  
dumb man suddenly regained his speech.  
We learn that a golfer who was passing  
at the time turned very pale and hurried  
on.

—London Opinion.

### THE DECOY



First Bandit—Slowin' down, ain't he?  
Second Bandit—Of course.

—American Legion Weekly.

the Paige-Ohio Company of Toledo the  
total was increased to \$9,448,173.60.  
From this was appropriated \$442,270 paid  
in cash dividend on preferred and com-  
mon stock, leaving a balance of \$9,005,-  
903.60 as the equity of holders of 616,000  
shares of no par value common stock as  
of June 30th.

## New Board Race Track Is Being Built at Salem, N. H.

BOSTON, Aug. 15.—New England is  
going to have a board track that will  
rival the one at Culver City, and it is  
to be ready in September so that a race  
will be assured Saturday, October 17.  
It is to be built at Salem, N. H., just  
over the Massachusetts line where a  
race, held July 4, was won by Ralph De  
Palma.

Nearly 50,000 went to that race, and  
the promoters, among them Jack Le  
Cain, the former racing star, saw the  
possibilities of speedway events and gave  
orders for the board track. Work on it

started this week and it will cost more  
than \$100,000.

Le Cain has been assured that all the  
star drivers will compete and that the  
race will count in the points for the  
American championship.

### CUNNINGHAM GOES TO EUROPE

DETROIT, Aug. 15.—Harry L. Cun-  
ningham, secretary-treasurer of Ricken-  
backer Motor Company, sailed last week  
for Europe where he will study market  
conditions for American cars in general  
and Rickenbacker in particular. Mr.  
Cunningham was one of the first men in  
the industry to visit Europe several  
years ago and has to his credit the es-  
tablishment of branch houses in Eu-  
rope for two of the largest automobile  
manufacturers in the industry. On his  
trip which is purely business, he will  
visit France, Germany, Belgium, Holland,  
England and possibly Czechoslovakia,  
which latter country is second only to  
Germany in its ability to buy and in-  
sistence on American-made cars.

# Prices and Weights of Current Passenger Car Models

SHIP. WT. PASS. BODY STYLE. PRICE

## AJAX

2210	5-p	108 in. W. B.	
2410	5-p	Touring	\$865
		Sedan	995

## ANDERSON "41"

2650	5-p	Touring	\$1,195
2675	4-p	Sp. Touring	1,445
2925	2-p	Coupe	1,425
2875	5-p	Sedan	1,695
2925	5-p	Sp. Sedan	1,895

## "50"

2975	7-p	Touring	1,595
3200	7-p	Sedan	1,945

## APPERSON "6"

3100	5-p	Phaeton	\$1,575
3130	5-p	Sp. Phaeton	1,650
3145	4-p	Coupe	2,050
3570	5-p	Sp. Sedan	2,100
3520	5-p	Brougham	2,050

## "ST 8"

3520	5-p	Sp. Phaeton	1,995
3750	4-p	Coupe	2,450
3770	5-p	Brougham	2,450
3790	5-p	Sedan	2,595

## AUBURN

	4-p	"6-66"	
	5-p	Touring	1,495
	5-p	Touring	1,395
	5-p	Brougham	1,595
	5-p	Sedan	1,795
		Wanderer	1,845

## "8-88"

	4-p	Sport Roadster	1,975
	5-p	Touring	1,995
	5-p	Brougham	2,250
	5-p	Sedan	2,350
		Wanderer	2,400

## BUICK

	2-p	"Standard"	
	5-p	Roadster	\$1,125
	5-p	Touring	1,150
	2-p	Coupe	1,195
	4-p	Coupe	1,275
	5-p	4d. Sedan	1,495
	5-p	2d. Sedan	1,195

## "Master"

		(120 in. W. B.)	
	2-p	Roadster	1,250
	5-p	Touring	1,295
	5-p	Sedan	1,495
	5-p	2d. Sedan	1,395

## (128 in. W. B.)

	3-p	Sp. Roadster	1,495
	5-p	Sp. Touring	1,525
	4-p	Country Club	1,765
	4-p	Coupe	1,795
	5-p	Brougham Sedan	1,925
	7-p	Sedan	1,995

## CADILLAC

		"V-63" Standard Line	
		(132 in. W. B.)	
	2-p	Coupe	\$3,045
	5-p	Sedan	3,195
	7-p	Sedan	3,295
	5-p	Brougham	2,995
	7-p	Imperial	3,435
	4-p	Victoria	3,095

## Custom Built

		(132 in.)	
		Roadster	3,250

## (138 in. W. B.)

	7-p	Touring	3,250
		Phaeton	3,250
4400	5-p	Coupe	4,000
4490	5-p	Sedan	4,150
4590	7-p	Suburban	4,285
4655	7-p	Imperial	4,485

## CASE

3260	3-p	J. I. C.	
3290	5-p	Roadster	\$1,840
3470	5-p	Touring	1,885
3570	4-p	Sp. Touring	2,160
3640	4-p	Sub. Coupe	2,480
3650	5-p	Sedan	2,590
	5-p	Brougham	2,590

## "X"

3020	3-p	Roadster	1,570
3050	5-p	Touring	1,595
3380	5-p	Sub. Coupe	2,290
3400	5-p	Sedan	2,385

## "Y"

3950	7-p	Touring	2,225
4820	7-p	Sedan	2,975

## CHANDLER "SS"

3090	2-p	Roadster	\$1,795
3132	4-p	Roadster	1,785
3085	5-p	Sport Touring	1,595
3223	7-p	Touring	1,735
3248	4-p	Royal Dispatch	1,855
3376	5-p	Coach	1,595
3309	5-p	Chummy Sedan	2,045
3525	5-p	Met. Sedan	2,195
3548	5-p	Sedan 4 d.	1,995
3594	7-p	Sedan	2,295
3585	7-p	Limousine	3,095

SHIP. WT. PASS. BODY STYLE. PRICE

## CHEVROLET

		"Superior" (Series K)	
1755	2-p	Roadster	\$525
1870	5-p	Touring	525
2015	2-p	Utility Coupe	675
2110	5-p	Coach	695
2220	5-p	Sedan	775

## CHRYSLER "Four"

		(109 in. W. B.)	
2390	5-p	Touring	\$895
2440	2-p	Club Coupe	995
2590	5-p	Coach	1,045
2680	5-p	Std. Sedan	1,095

## "Six" (112 3/4 in. W. B.)

2805	4-p	Roadster	\$1,625
2785	5-p	Phaeton	1,395
2895	5-p	Coach	1,445
2935	4-p	Coupe	1,795
2995	5-p	Brougham	1,865
3060	5-p	Sedan	1,695
3085	5-p	Imperial Sedan	1,965
3090	5-p	Crown Sedan	2,095

## (118 3/4 in. W. B.)

3225	5-p	Town Car	3,725
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## CLEVELAND "31"

2325	5-p	Touring	\$ 895
2580	5-p	Sedan	1,195

## "43"

2750	5-p	Touring	1,095
2810	5-p	Touring De Luxe	1,195
2910	5-p	Sp. Touring	1,295
3000	5-p	Coach	1,295
3190	5-p	Sedan De Luxe	1,695
3190	5-p	Sport Sedan	1,725

## COLE "MASTER"

3675	4-p	Volante Touring	\$2,325
3795	7-p	West. Touring	2,325
3675	4-p	Aero-Vol. Tour.	2,475
4055	4-p	Bouquet Sedan	3,225
4000	7-p	Royal Sedan	3,225
4100	7-p	Royal Limousine	3,325

## CUNNINGHAM

		"V-6"	
4600	7-p	Touring	\$6,650
4500	4-p	Sp. Touring	6,150
4700	4-p	Coupe	7,600
5000	8-p	Limousine	8,100

## DAGMAR

		"6-70"	
3750	4-p	Roadster	\$3,500
3800	4-p	Sp. Tourer	3,500
3700	4-p	Phaeton	3,500
4200	4-p	Petite Coupe	4,500
4200	4-p	Petite Sedan	4,500
4500	4-p	De Luxe Coupe	4,750
4700	5-p	Sedan	4,700
4800	7-p	Sedan	4,750

## "6-60"

3100	4-p	Roadster	2,185
3200	4-p	Sp. Touring	1,985
3150	5-p	Touring	1,785
3400	3-p	Coupe	2,345
3500	5-p	Sedan	2,345

## DAVIS

		"90"	
2650	4-p	M. o'War Road.	\$1,495
2915	4-p	Legionaire Tour.	1,495
2750	5-p	Phaeton	1,395
	5-p	Sedan	1,595
3070	5-p	Imperial Sedan	1,795
3065	5-p	Berline Sedan	1,795

## "91"

2835	4-p	Roadster	1,795
3020	5-p	Phaeton	1,695
	5-p	Sedan	1,895
3245	5-p	Imperial Sedan	2,095
3215	5-p	Berline Sedan	2,095

## DIANA "St. 8"

2970	5-p	Roadster	\$1,895
2990	5-p	Phaeton	1,895
3245	5-p	Std. Sedan 2d.	1,995
3245	5-p	DeLuxe Sedan	2,195
3130	5-p	Cabriolet	2,095
3140	5-p	Brougham	2,095

## DODGE BROTHERS

2473	2-p	Roadster	\$ 855
2593	2-p	Special Roadster	955
2567	5-p	Touring	885
2695	5-p	Spec. Touring	985
2708	2-p	Coupe "B"	995
2823	2-p	Spec. Coupe "B"	1,095
2995	5-p	"B" Sedan	1,095
3077	5-p	Spec. "B" Sedan	1,195
3020	5-p	Sedan A	1,245
3107	5-p	Spec. "A" Sedan	1,339
2723	5-p	Coach	1,095
2823	5-p	Spec. Coach	1,195

## DORRIS

		"6-80"	
4120	4-p	Pasadena Tour.	\$4,150
4115	7-p	Touring	4,150
4193	4-p	Coupe	4,985
4200	5-p	Sedan	5,550
4310	7-p	Sedan	5,800

SHIP. WT. PASS. BODY STYLE. PRICE

## DUESENBERG

		Straight "8"	
3920	2-p	Roadster	†
3700	4-p	Phaeton	\$6,650
3920	4-p	Phaeton	†
3980	4-p	Sp. Phaeton	†
	4-p	Sedan	†
4500	7-p	Sedan	†

†Manufacturers do not quote list prices.

## DU PONT

		"D"	
3300	2-p	Roadster	\$2,600
3550	5-p	Touring	2,600
3800	7-p	Touring	2,750
3550	5-p	Touring Sedan	3,400

## DURANT

		A-22	
	2-p	Sp. Roadster	900
2225	5-p	Touring	810
	5-p	Spec. Touring	930
2395	4-p	Coupe	1,090
	4-p	Spec. Coupe	1,160
2505	5-p	Sedan	1,150
	5-p	Spec. Sedan	1,280

## ELCAR

		"4-55"	
2560	5-p	Touring	\$1,095
2900	5-p	Coach	1,195
2779	5-p	Sedan	1,395

## "6-65"

	5-p	Touring	1,295
2779	5-p	Coach	1,395
2900	5-p	Sedan	1,595

## "6-80"

	4-p	Roadster	2,315
3700	5-p	Sp. Touring	2,165
	7-p	Touring	2,265
3000	3-p	Coupe Roadster	2,315
	5-p	Sedan	2,265
4050	7-p	Sedan	2,765
4000	5-p	Brougham	2,865

## ESSEX

2185	5-p	Touring	\$850
2370	5-p	Coach	850

## FLINT

		"55"	
3325	4-p	Sport Roadster	\$1,950
3245	5-p	Touring	1,595
3310	4-p	Sp. Touring	2,050
3245	4-p	Coupe	2,195
3595	5-p	Sedan	2,285
3565	5-p	Brougham 4 d.	2,735
		"40"	
2715	5-p	Touring	1,285
2940	5-p	Sedan 4 d.	1,680
2965	5-p	Brougham	1,760

## FORD

		Without Starter and Dem. Rims	
1369	2-p	Runabout	\$260
		With Balloon Tires	305
1494	5-p	Touring	290
		With Balloon Tires	335

With Starter and Dem. Rims

1521	2-p	Runabout	345
		With Balloon Tires	370
1644	5-p	Touring	375
		With Balloon Tires	400
1749	2-p	Coupe	520
		With Balloon Tires	545
1882	5-p	Sedan, Tudor	580
		With Balloon Tires	605
1927	5-p	Sedan, Fordor	660
		With Balloon Tires	685

## FRANKLIN

		"11-A"	
2800	3-p	Sport Roadster	\$2,800



# Prices and Weights of Current Passenger Car Models

## PRICE

## SHIP. WT. PASS. BODY STYLE. PRICE

SHIP.	WT. PASS.	BODY STYLE.	PRICE
LOCOMOBILE "48"			
5280	4-p	Sportif Tour	\$ 7,460
5330	7-p	Touring	7,460
5630	5-p	Victoria Sedan	10,050
5464	7-p	Brougham	10,040
5640	7-p	Touring Lim.	9,500
5868	7-p	Enc. Drive Lim.	10,050
5600	7-p	Cabriolet	10,300

-----	2-p	Roadster	2,150
-----	5-p	Touring	1,785
-----	5-p	Sedan	2,285
-----	5-p	Brougham	2,285

McFARLAN "6"			
8700	2-p	Roadster	\$2,650
8600	2-p	Spec. Roadster	2,900
-----	7-p	Touring	2,650
8850	4-p	Coupe	2,750
8850	5-p	Sedan	3,180
-----	5-p	Spec. Sedan	3,180
8850	7-p	Sedan	3,180
-----	5-p	Sub. Sedan	3,280
-----	7-p	Sub. Sedan	3,380
-----	5-p	Brougham 4 d.	3,480
-----	5-p	Brougham	3,180

-----	2-p	Roadster	5,400
4000	4-p	Sp. Touring	5,600
4600	4-p	Coupe	6,720
4900	4-p	Tour. Sedan	6,720
5200	7-p	Tour. Sedan	6,810
-----	6-p	Sedan	6,720
-----	7-p	Sedan	6,810
-----	7-p	Spec. Sedan	6,810
-----	7-p	Enc. Sedan	7,110
-----	7-p	Sub. Sedan	7,110
5200	7-p	Town Car	9,000

MARMON "74"			
3695	2-p	Roadster	\$3,165
3604	5-p	Phaeton	3,295
3704	5-p	Touring	3,295
3604	5-p	Club Phaeton	3,465
3704	7-p	Club Touring	3,465
3799	5-p	Brougham Coupe	3,295
-----	4-p	Victoria Coupe	3,295
8728	3-p	Coupe De Luxe	3,455
8869	5-p	Sedan	3,295
8859	5-p	Sedan De Luxe	3,775
8999	7-p	Sedan	3,370
8974	7-p	Sedan De Luxe	3,850
8969	5-p	Sedan Limousine	3,900
8999	7-p	Sedan Limousine	3,975

MERCER "6"			
3860	3-p	Runabout	\$4,500
3860	6-p	Touring	4,500
3890	4-p	Sporting	4,500
4070	4-p	Coupe	6,250
4240	6-p	Sport Sedan	6,250
4350	4-p	Tour. Limousine	6,500
4300	4-p	Brougham	6,500

MOON			
2490	5-p	Roadster	\$1,395
2675	3-p	Cab. Roadster	1,695
2510	5-p	Touring	1,295
2750	5-p	Coach De Luxe	1,495
2750	5-p	DeL. Sedan 2d.	1,695
2850	5-p	Std. Sedan 4d.	1,595
3850	5-p	DeLux Sedan 4d.	1,785

Newport			
2760	5-p	Touring	1,495
2920	5-p	Sedan	1,815
3090	5-p	Petite Sedan	1,915

Metropolitan			
2860	5-p	Touring	1,515
3020	5-p	Sedan	1,995
3190	5-p	Sp. Sedan	2,095

London			
3270	5-p	Sp. Touring	1,985
3590	5-p	Petite Sedan	2,540

NASH "Special"			
2870	2-p	Roadster	\$1,135
2980	5-p	Touring	1,135
3120	5-p	Sedan 2d.	1,265
3300	5-p	Sedan 4d.	1,545

"Advanced"			
3820	3-p	Roadster	1,375
3400	5-p	Touring	1,375
3560	5-p	Sedan 2 d	1,485

"Advanced"			
3480	7-p	Touring	1,525
3640	4-p	Victoria	2,090
3750	5-p	Coupe 4 d.	2,190
3830	7-p	Sedan	2,290

OAKLAND "6"			
-----	5-p	Touring	\$1,025
-----	5-p	Coach	1,095
-----	3-p	Landau Coupe	1,125
-----	5-p	Sedan	1,195
-----	5-p	Landau Sedan	1,295

OLDSMOBILE "30"			
-----	5-p	Touring	\$375
-----	5-p	Sp. Touring	980
-----	5-p	Coach	950

## SHIP. WT. PASS. BODY STYLE. PRICE

SHIP.	WT. PASS.	BODY STYLE.	PRICE
OLDSMOBILE (Cont'd)			
-----	5-p	De Luxe Coach	1,040
-----	5-p	Sedan	1,025
-----	5-p	De Luxe Sedan	1,115

OVERLAND "91" 4			
1919	5-p	(100 in. W. B.) Touring	\$495
2205	5-p	Coupe	625
2202	5-p	Sedan De Luxe	695
-----	5-p	Std. Sedan 2d.	645

-----	5-p	(112 1/2 in. W. B.) Sta. Sedan	895
2443	5-p	Sedan DeLux	1,095

PACKARD "6"			
3643	4-p	(126 in. W. B.) Roadster	\$2,785
3653	5-p	Touring	2,585
3595	4-p	Sp. Touring	2,750
3753	4-p	Coupe	2,585
3937	5-p	Sedan	2,585

3793	7-p	(133 in. W. B.) Touring	2,785
4043	7-p	Sedan	2,785
-----	5-p	Club Sedan	2,725
4143	7-p	Sedan Limousine	2,885

-----	4-p	(136 in. W. B.) Runabout	\$950
4060	5-p	Touring	3,750
4090	4-p	Sp. Touring	3,900
4023	4-p	Coupe	4,650
4242	4-p	Sedan	4,750
4528	5-p	Coupe	5,775

4199	7-p	(143 in. W. B.) Touring	\$3,950
-----	5-p	Club Sedan	4,890
4655	7-p	Sedan	5,000
4710	7-p	Sedan Limousine	5,100

PAIGE "21-24"			
3875	4-p	Phaeton	\$2,165
3935	7-p	Phaeton	2,165
3975	5-p	Brougham	2,195
4050	5-p	Broug. De Luxe	2,395
-----	5-p	Sedan De Luxe	2,395
4325	7-p	Sedan De Luxe	2,840

PEERLESS "6-72"			
3175	5-p	(126 in. W. B.) Touring	\$1,895
3425	5-p	Coupe	2,295
3500	5-p	Sedan	2,395

3275	2-p	(133 in. W. B.) Roadster	2,195
3300	7-p	Touring	1,995
3700	7-p	Sedan	2,595
3825	7-p	Limousine	2,695

3950	4-p	Phaeton	2,845
3995	7-p	Phaeton	2,895
4300	5-p	Town Brougham	3,895
4310	5-p	Town Sedan	3,495
4400	7-p	Sub. Sedan	3,595
4525	7-p	Berline Lim.	3,795
4100	4-p	Victoria Coupe	3,245
4150	5-p	Sub. Coupe	3,295

PIERCE-ARROW "33"			
4350	2-p	Runabout	\$5,250
4500	4-p	Touring	5,250
4590	7-p	Touring	5,250
4730	3-p	Coupe	6,800
4800	4-p	Sedan	6,900
4960	7-p	Sedan	7,000
4750	4-p	Coupe Sedan	6,900
4730	6-p	Brougham	6,800
4850	7-p	Limousine	7,000
5060	7-p	Enclosed Lim.	7,000
4780	7-p	French Lim.	7,000
4730	6-p	Landulet	7,000

3205	2-p	Roadster	2,895
3260	4-p	Phaeton	3,095
3385	7-p	Phaeton	2,895
3430	5-p	Coach	3,150
3365	4-p	Coupe Landau	3,820
3335	4-p	Coupe	3,695
3440	5-p	Sedan	3,895
3560	7-p	Sedan	3,995
3615	7-p	Enc. Drive Lim.	4,045

REO "T-6"			
3350	2-p	Roadster	\$1,765
3182	5-p	Sp. Touring	1,595
3350	2-p	Coupe	1,645
3450	4-p	Coupe	1,975
3400	5-p	Sedan 4 d.	1,645
3545	5-p	Sedan 4d.	2,085
3705	5-p	Brougham 4 d.	2,235

REVERE "23"			
3900	2-p	Sp. Roadster	\$2,750
3975	4-p	Speedster	2,750
4050	5-p	Touring	2,750
4300	5-p	Sedan	3,800

3700	2-p	Roadster	\$2,200
3800	4-p	Sportster	3,200
3970	5-p	Touring	3,200
4400	5-p	Sedan	4,000

## SHIP. WT. PASS. BODY STYLE. PRICE

SHIP.	WT. PASS.	BODY STYLE.	PRICE
RICKENBACKER			
-----	3-p	(117 in. W. B.) Roadster	\$1,595
-----	5-p	Phaeton	1,495
-----	3-p	Coupe Roadster	1,695
-----	3-p	De Luxe	1,820
-----	4-p	Coupe De Luxe	1,995
-----	5-p	Spec. Sedan	1,795
-----	7-p	Sedan De Luxe	1,920
-----	5-p	Coach Brougham	2,070
-----	5-p	De Luxe	1,595
-----	5-p	De Luxe	1,720

"Eight" (121 1/2 in. W. B.)			
-----	3-p	Roadster	1,995
-----	5-p	Phaeton	1,995
-----	3-p	Coupe Roadster	2,095
-----	3-p	De Luxe	2,220
-----	5-p	Spec. Sedan	2,195
-----	5-p	De Luxe	2,320
-----	7-p	Sedan De Luxe	2,470
-----	5-p	Coach Brougham	1,995
-----	5-p	De Luxe	2,120

ROAMER "6-50-55" (115 in. W. B.)			
-----	2-p	Roadster	\$1,385
-----	5-p	Spec. Tourer	1,295
-----	2-p	Bus. Coupe	1,495
-----	5-p	Coupe	1,495
-----	5-p	Sedan DeLux	1,695

"6-54-E" (118-138 in. W. B.)			
-----	4-p	Roadster	2,385
-----	4-p	Tourer	1,985
-----	4-p	Sport	2,285
-----	7-p	Tourer	2,285
-----	3-p	Cabriolet	2,750

"4-75-E" (128 in. W. B.)			
-----	2-p	Speedster	3,485
-----	4-p	Sport	3,285
-----	4-p	Tourer	2,985

"8-88" (138 in. W. B.)			
-----	4-p	Roadster	2,750
-----	5-p	Sport	2,750
-----	5-p	Tourer	2,495
-----	7-p	Tourer	2,585
-----	2-p	Speedster	2,985
-----	3-p	Cabriolet	2,950
-----	5-p	Spec. Sedan	3,785
-----	7-p	Sedan (136-in. W. B.)	3,285
-----	5-p	Brougham	2,895

ROLLIN			
2360	5-p	Touring	\$1,155
2405	3-p	Coupe	1,325
2595	5-p	Brougham	1,325
2575	5-p	Sedan	1,455

ROLLS-ROYCE			
-----		Chassis	++

STANLEY "252"			
3400	5-p	Phaeton	\$2,500
3800	5-p	Sedan	\$3,800

STAR			
-----	2-p	Roadster	\$525
-----	5-p	Touring	525
-----	2-p	Coupester	595
-----	5-p	Coach	675
-----	5-p	Sedan 4 d.	695
-----	5-p	Sedan 4 d.	775

STEARNS-KNIGHT "B" (4)			
3775	4-p	Coupe Roadster	\$1,795
4250	5-p	Touring	1,695
3750	4-p	Coupe Brougham	2,095
-----	5-p	Brougham	2,095

"S" (6)			
3775	5-p	Roadster	2,495
3850	7-p	Touring	2,395
4025	2-p	Coupe	2,495
4275	4-p	Sp. Coupe	3,395
3950	5-p	Sedan	3,150
4275	7-p	Sp. Brougham	2,945
-----	4-p	Sp. Sedan	3,395
-----	5-p	Brougham	3,395

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# Mechanical Specifications of Current Passenger Car Models

This list comprises cars distributed on a national basis

MAKE AND MODEL										ENGINE										SYSTEM										ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Wheel Base (Inches)					Tire Size					Bore and Stroke					Rated H.P.					Piston Displacement					Valve Arrangement					Camshaft Drive					Crankcase In-tereg. or Sep.					Piston Material					No. Main Bear.					Oiling System					Oil Cleaner?					Cooling System					Thermostat?					Carburetor					Air Cleaner?					Ignition System					Generator and Starter Make					Clutch—Type and Make					Gear Set—Make					Universals—Type and Make					Type and Make					Foot—Type and Location					Hand—Type and Location					4-Wheel Type					Steering Gear—Make					Rear Springs—Type and Length					Chassis and Lubrication					Type and Make																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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# LEADERSHIP!

WON OVERNIGHT~ CONCEDED EVERYWHERE  
*Read how Motor-Wise Detroit received*

DIANA

THE *LIGHT* STRAIGHT EIGHT

CLASS OF SERVICE DESIRED <input type="checkbox"/> TELEGRAM <input type="checkbox"/> DAY LETTER <input type="checkbox"/> NIGHT MESSAGE <input type="checkbox"/> NIGHT LETTER	<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; font-weight: bold; margin-right: 10px;">WESTERN UNION</div>  <div style="font-size: 2em; font-weight: bold; margin-left: 10px;">TELEGRAM</div> </div>	Form C-104 No. <span style="border: 1px solid black; padding: 2px;">LASH DR. 010.</span>  CHECK <input type="checkbox"/>  TIME FILED <input type="checkbox"/>
(Finger should press in a hole on the date of service desired. If message is transmitted as a full rate telegram)		
NEWCOMB CARLTON, PRESIDENT      GEORGE W. S. ATKINS, FIRST VICE-PRESIDENT		

Send the following message, subject to the terms on back hereof, which are hereby agreed to

ZB42 75 NL

DETROIT MICH 24

MOORE MOTOR CAR CO.

ST. LOUIS MO

DIANA CARS RECEIVED UNANIMOUS APPROVAL OF THE MOST EXACTING  
AUTOMOBILE BUYING PUBLIC IN AMERICA WE HAVE ALREADY RECEIVED SEVERAL  
ORDERS FROM DETROIT'S LEADING CITIZENS AND WE BELIEVE THIS CAR WILL  
BE THE SENSATION OF THE YEAR OUR DEMONSTRATORS ARE WORKING OVERTIME WITH  
A DELUGE OF PROSPECTIVE CUSTOMERS AND CAN SAY THAT THE ONLY COMMENTS  
WE ARE RECEIVING ARE FLATTERING WE HAVE NEVER IN OUR EXPERIENCE SEEN  
SUCH WONDERFUL PERFORMANCE IN ANY CAR REGARDLESS  
OF PRICE

THOMAS BROOKS INC.

MASS BROOKS INC.

Form 1363-A

**WESTERN UNION**  
TELEGRAM

**CLASS OF SERVICE DESIRED**

TELEGRAM
DAY LETTER
NIGHT MESSAGE
NIGHT LETTER

**FROM** \_\_\_\_\_

**TO** \_\_\_\_\_

**NEWCOMB CARLTON, PRESIDENT**      **GEORGE W. ATKINS, FIRST VICE-PRESIDENT**

**SEND THE FOLLOWING MESSAGE, SUBJECT TO THE TERMS ON BACK HEREOF, WHICH ARE HEREBY AGREED TO**

**THE FOLLOWING MESSAGE, SUBJECT TO THE TERMS ON BACK HEREOF, WHICH ARE HEREBY AGREED TO**

No.	CASH OR C/O
CHECK	
TIME	

46A FS 47 BLUE

DETROIT MICH 1113A JUL 6 1925

STEWART McDONALD  
PRES MOON MOTOR CAR CO ST LOUIS MO

DURING OPENING WEEK ANNOUNCING DIANA AND PRELIMINARY SALES OF WHICH THOS BROOKS  
FIFTEEN DIANAS RECEIVED FOURTEEN DELIVERED WHOLESALE OF WHICH THOS BROOKS  
INCORPORATED DETROIT DEALER SOLD AND DELIVERED TWELVE WITH SIX MORE ON  
ORDER DIANA DELUXE SEDANS AND NEW STYLE ROADSTERS BADLY NEEDED AS SAME  
ARE IN GREAT DEMAND

DEUTSCH SALES CO

1210P

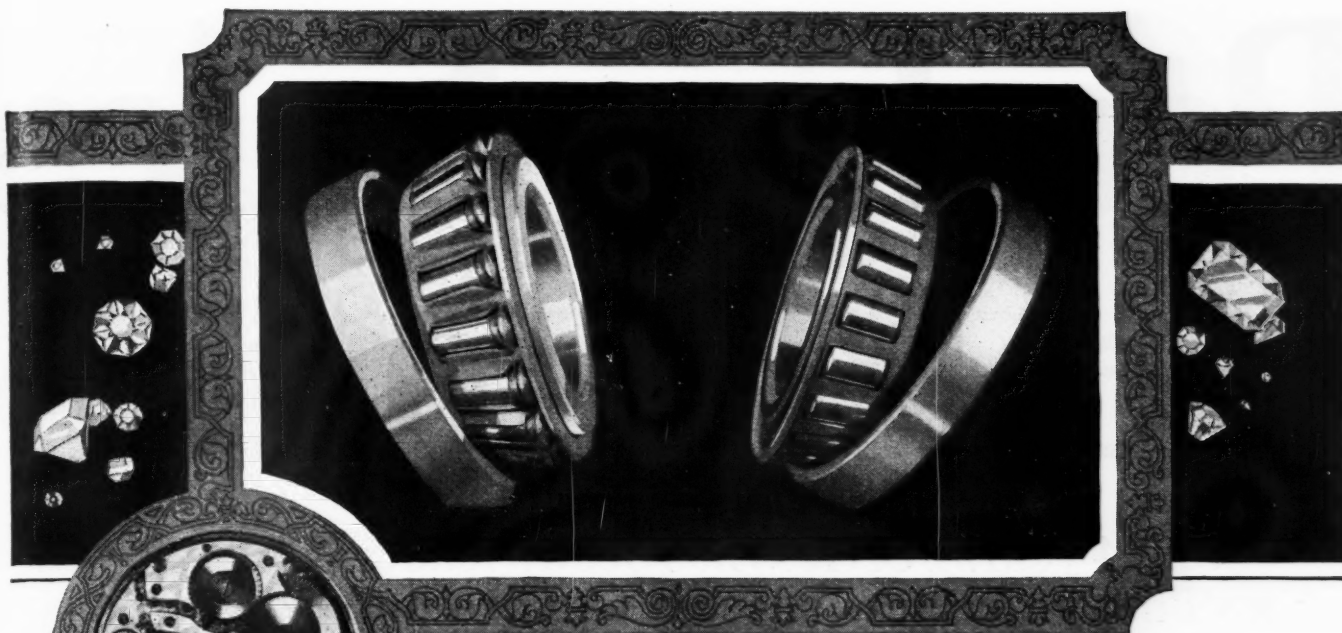
[illegible][illegible][illegible]

**MOON MOTOR CAR COMPANY, St. Louis, Stewart Mac Donald, Pres.**  
*Write, Phone or Wire for Details of Franchise*

(This list comprises cars distributed on a national basis)

[illegible]





## Bock Bearings~ The Jewels of Your Car

**M**OUNTED on tiny jewels, the intricate, fast-moving parts of your watch run year after year, practically free from friction, with an accuracy almost unbelievable.

"Jewels are the 'bearings' of your watch," the watch maker will tell you. Reverse the metaphor, and it is equally true—"Bearings are the 'jewels' of your car."

It is no difficult stretch of the imagination to think of Bock Bearings as jewels, so perfectly are they made, so accurately ground, so finely polished.

They wear for years without attention, too, but whereas your watch jewel may be broken in one careless drop, your Bock Bearings endure the most severe and continued punishment without failing you.

THE BOCK BEARING COMPANY • TOLEDO, OHIO

# BOCK

## TAPERED ROLLER BEARINGS

# Peerless Sales are Mounting

**F**OR 24 years Peerless has been a leader. Today Peerless success is more outstanding than ever. In the last few months it has become the talk of the industry.

Over ninety established distributors and dealers have recently taken on the Peerless contract.

The Peerless factory is working at top speed on actual orders. In sales Peerless has passed manufacturer after manufacturer in the official standings.

What has happened? Just this.

Today at new reduced prices Peerless offers the greatest dollar for dollar automobile value in the American market.

And remember—Peerless has *always* been a good car.

*New Prices  
Effective  
Now!*

**The Peerless  
Equipoised Eight**  
*with Custom Bodies*

4-Pass. Phaeton	• \$2845
7-Pass. Phaeton	• 2895
4-Pass. Victoria	• 3245
5-Pass. Coupe	• 3295
5-Pass. Sedan	• 3495
5-Pass. Brougham	3495
7-Pass. Sedan	• 3595
Limousine	• • • 3795

**The Peerless Six**

5-Pass. Phaeton	• \$1895
7-Pass. Phaeton	• 1995
Sport Roadster	• 2195
5-Pass. Coupe	• 2295
5-Pass. Sedan	• 2395
7-Pass. Sedan	• 2595
Limousine	• • • 2695

*All Prices F. O. B. Factory*

# PEER





# Actual Peerless Shipments for the last three months

May 1925

**40%**

greater than  
May 1924

June 1925

**111%**

greater than  
June 1924

July 1925

**96%**

greater than  
July 1924

## —and August going big!

**N**EVER HAS the Peerless franchise been so valuable—or so attractive. It gives a sales organization two of the world's greatest cars—the Peerless Equiposed Eight and the Superb Peerless Six—a fine line with a broad appeal that will be even broader before many weeks. Good distributors and dealers will find it well worth while to get in touch with Peerless. Wire, write or phone.

**THE PEERLESS MOTOR CAR CO., CLEVELAND, OHIO**

*The Equiposed Peerless Eight and the Superb Peerless Six*

# PEERLESS

# Pacemakers!

The General distributors are the recognized pacemakers in their respective communities.

Each one a real factor in the factory's increased volume.

Each one showing sales increases that have forced two new factory additions this year.

Always ahead with new features in the line. Ready with the 6-ply Balloon when the big swing came.

Recognized low-pressure headquarters with its fullest advantages in all Regular Sizes as well as the 4-ply and 6-ply Balloons.

A record for permanency. Year-in-and-year-out sales increases without equal in the industry.

More and more of the General distributors are building new stores for drive-in service.

The Mark  
of Leading  
Tire Stores  
Everywhere



*The*

# GENERAL CORD

—goes a long way to make friends

BUILT IN AKRON, OHIO, BY THE GENERAL TIRE AND RUBBER COMPANY





# BOLTS BLUE THE Bp LINE PRINT BUSHINGS

- SERVICE-BOOK -

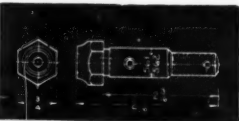
KING BOLTS  
SPRING BOLTS  
TIE ROD BOLTS  
STEEL & BRONZE  
BUSHINGS

**"MADE** to Blue Print" is more than a name. It is our guarantee to the Replacement Trade that Blue Print Bolts and Bushings are of the same high standard of Quality and Accuracy demanded by the car manufacturer.

The Blue Print Service Book is designed and written exclusively to help the Jobber, Dealer and Repair Man render the fullest measure of efficient,—and profitable—service to the car owner.

*A request on your letter head will  
bring a copy of this booklet to you.  
Address 308 Blue Print Ave.*

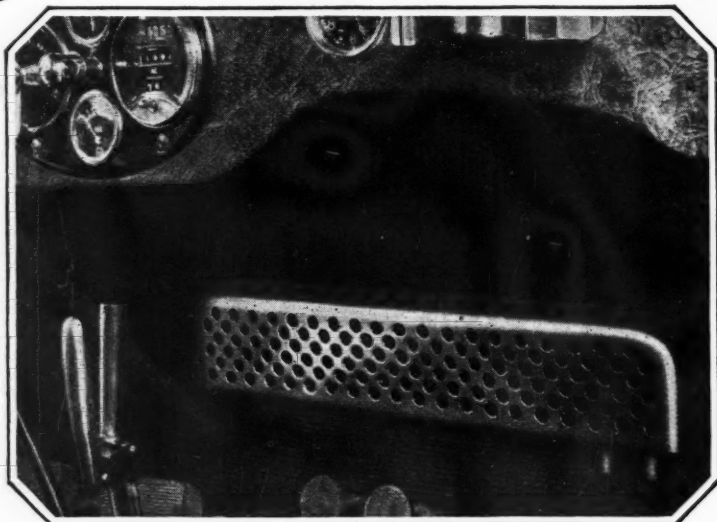
*The Fostoria Screw Co.*



*Fostoria, Ohio. U.S.A.*

# Stock Kingston Heaters

## Now!



### *The New UNIVERSAL Model fits and warms Every Car*

THE KINGSTON UNIVERSAL HEATER fits every car. It is usually placed on the vertical dashboard near the feet of the front seat occupants. The heat warms the feet and bodies and rolls out under the cowl to warm the hands. You need no gloves in zero weather. Heater provides forty-two feet of radiation, has a positive non-leaking valve and eight feet of flexible metal tubing. Dealers will find a big demand. Remember, the Universal fits EVERY car. Get ready for the rush!

Price complete, ready to install \$8.50

### **THE SATURDAY EVENING POST**

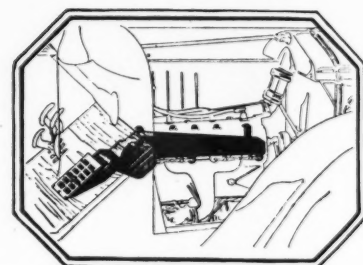
THE KINGSTON LINE OF CAR HEATERS will be advertised throughout the season in THE SATURDAY EVENING POST, creating a tremendous demand on the part of the buying public. Dealers should write for our window and counter displays, direct-by-mail helps and other advertising aids. Free, of course, and sent to you by return mail.



# KINGSTON

## CAR HEATERS

### *Manifold Type*



**Ford  
\$3.75**

### **KINGSTON Model for Fords**

THE KINGSTON MANIFOLD HEATER for Ford Cars has been a popular seller for years. It is handsome, durable, easily installed and it heats the moment the motor starts. Stock this splendid seller NOW, and be ready for the rush. The KINGSTON breaks its own sales record every year, and should be the leading item in your winter business. Write or wire TODAY!

Ford Manifold Model, \$3.75  
Chevrolet, Dodge & Overland, \$5.00



# Sold and Serviced all over the World

**A**LL over the world—wherever the wheels of progress spin—wherever the automobile is found—you will also find Brunner Air Compressors at work.

Not only are Brunner Compressors used in these countries but they are regularly stocked by the leading jobbers and wholesalers as well. It is possible, if ever necessary, to get Brunner Service as quickly in Melbourne as you can here in America. It has taken Brunner twenty years to build up this world-wide distribution and service.

In this country, no matter where you are located, Brunner is only a matter of hours away. The Quality of the Brunner product has built the Brunner organization of today.

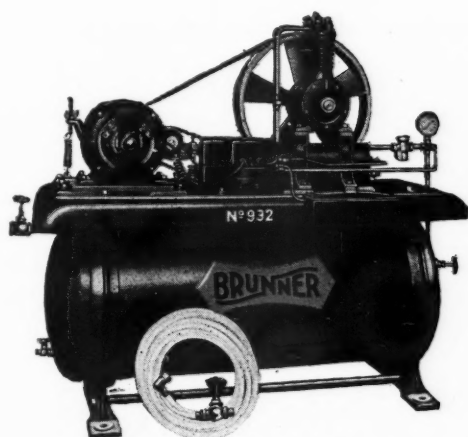
You can buy cheaper air compressors but not better ones. Write for your copy of our "Air Profits" Catalog.

**BRUNNER MANUFACTURING COMPANY**  
Utica, N. Y.

Cincinnati

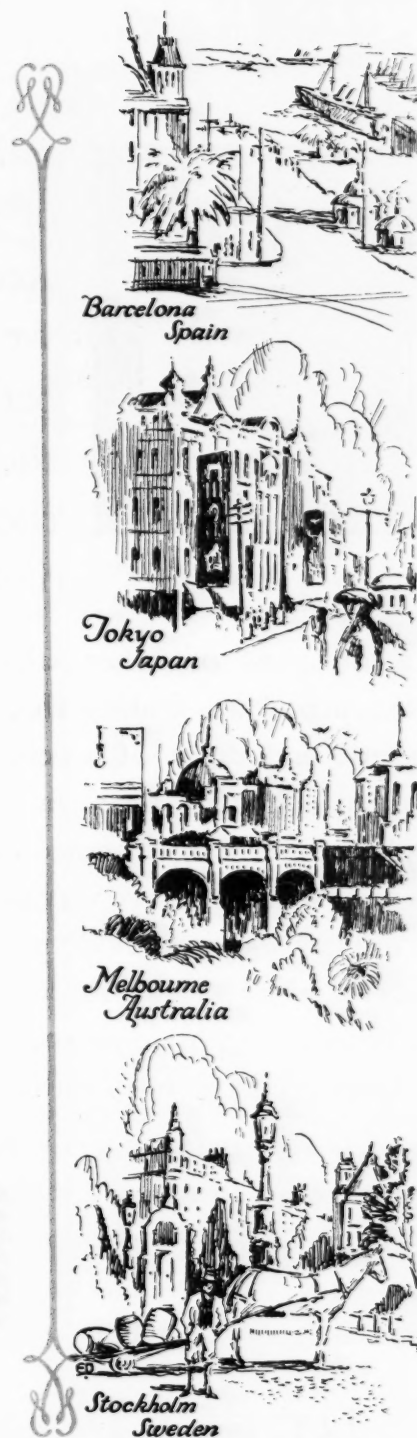
Kansas City

San Francisco



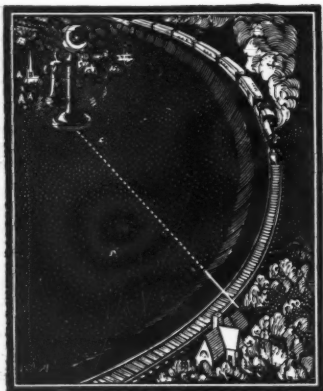
**Brunner Model  
No. 932**

Largely self-operating—includes a remarkable unloader-controller. Has Brunner doubly adjustable belt tightener, patented non-pounding Brunner check valve, and Brunner drawn seamless steel tank, guaranteed for working air pressure of 175 lbs. per sq. in.



# BRUNNER

# The MAN Who Took a Short Cut



THE SALES MANAGER of a mid-west concern learned of a large order about to be placed by a firm situated hundreds of miles away. He knew that others were after the deal and feared it would be closed before his representative could arrive. He called the firm on the long distance telephone to ask them to hold the order until he could send a salesman. It wasn't necessary. He got the order himself, then and there.

THOUSANDS of other salesmen and sales executives are finding that the worry, expense and delay of a personal trip can be saved, in many cases, by using the telephone. A long distance call is the comfortable, inexpensive way to go. It inspires confidence—it is evidence of a desire to serve. The saving in dollars of the long distance telephone to the business men of America amounts to millions annually.

Do you in your daily business turn to the Long Distance telephone only in an emergency, or as a dependable conservator of time? It will serve you in buying, making appointments, straightening out

collections, meeting customers and prospects, making sales, and in many other ways. One concern has six regular telephone salesmen, who average \$27,135 in sales each working day.

The Commercial Department of the Bell company in your city will gladly show you, free, numerous ways in which the long distance telephone can serve your business. In the meantime, put Long Distance to work. It will serve you in distant states and cities just as it now serves you locally. The telephone on your desk will reach whatever man or concern you want, now. . . . . *Number, please?*

## BELL LONG DISTANCE SERVICE





# VALVE FACE GRINDING MACHINE

No. 650

## Guaranty

*We, the undersigned, absolutely guarantee the Sioux Valve Face Grinding Machine bearing the above number to give satisfactory service in every way.*

*We agree to service this machine, free of charge, except emery wheel, diamond dresser and belts, at any time—the purchaser to pay only the transportation to and from our factory. (Excepting the motor, which is guaranteed by the maker).*

*This guarantee becomes effective on condition that the purchaser fill out and return the attached coupon to us.*

**Albertson & Co.**  
SIOUX CITY, IOWA

## Read the above Guaranty!

It's a real guaranty! It assures you a lifetime of satisfactory service. It means that your Sioux Valve Face Grinding Machine will always be worth 100 cents on the dollar to you. **Play Safe!** Investigate the Sioux before you buy.

**YOUR JOBBER SELLS IT**

**ALBERTSON & CO.**  
SIOUX CITY, IOWA



# Most trouble is Valve trouble



*Shoots ahead  
of the mob!*

**T**HE car equipped with Craver-oiler is equally at home in slow moving traffic or on the free reaches of the open road.

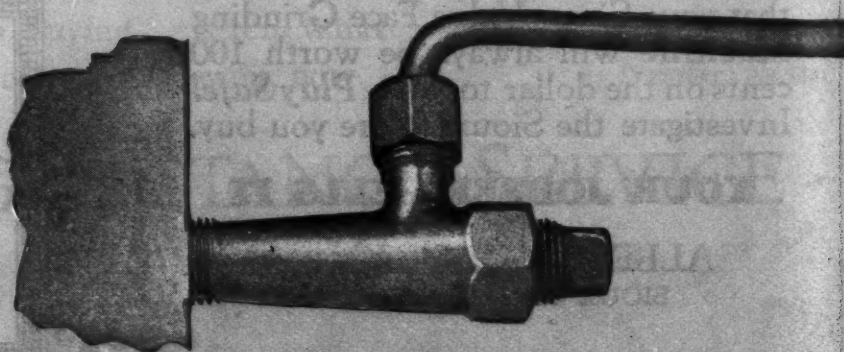
At the signal to go she is off like a Derby winner. She is swift on the pick-up and sure on the spurt or the long pull. Craver-oiler puts all the power that her maker gave her just where you want it—right under your foot. When the engine bucks or misses, don't say: "Her valves need grinding." Say: "She needs a Craver-oiler."

**T**HERE is no question about the crying need for lubrication of the working parts of the combustion chamber. The only question is "how." And at last Craver-oiler has answered that question.

Craver-oiler is the first practical and proven device for supplying that necessary lubrication to valves, stems, guides, piston rings and cylinder walls. Craver-oiler introduces into the manifold in vaporized form the specially prepared Craver-oil, which is a combination of high grade vegetable and mineral oils. This oil vapor mixes with the gas vapor and enters the combustion chamber, thoroughly lubricating the working parts.

A Craver-oiler, placed on a car which has run as little as 3000 miles since its valves were ground, will pay for itself in 24 hours by restoring to the car its original power and eliminating the necessity for more valve grinding.

The Craver-oiler makes new engines out of old ones and keeps new engines young.





# CRAVEROILER

PATENTED MAY 6<sup>TH</sup> 1925

THE COMBUSTION CHAMBER LUBRICATOR

**\$1250**

**FITS  
ANY  
CAR**

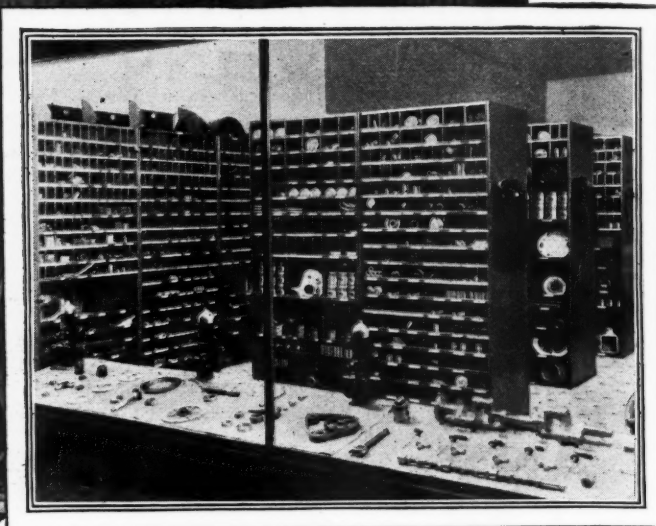
**Eliminates  
Valve  
Trouble!**



**CRAVEROILER COMPANY of AMERICA**

**Division of MILLER LOCK COMPANY**

**Frankford, Philadelphia, U. S. A.**



Department stores give their most valuable space for display and spend thousands of dollars to make their windows attractive. Display is equally necessary in selling auto parts and is as profitable to the dealer in the parts department as in the car showroom

## Take a lesson from the department store — To sell your parts—display them

**Y**OUR PARTS STOCK, well displayed, will draw car owners' attention to needed repairs. Thus, good display helps you show your customers the wisdom of changing spark plugs regularly, of replacing commutator points, of doing the many little things which prevent large repair bills later on.

We'll help you to improve your Parts Department, to make it a better display feature with consequent bigger profits. As manufacturers of Auto Parts Storage Systems and authorities on Parts Department lay-out, we are offering you free advice on your individual problems.

Just attach the coupon below to a rough plan of your building and send it to us. You will soon receive a suggested lay-out for your Parts Department and practical advice on changes you might make to increase your sales and profits on parts and service.

*This is a big chance for you. Do not overlook it.*

We will also send you *free* our new book on Better Parts Merchandising. It contains a great many helpful hints on making the parts business pay.

DAVID  
LUPTON'S  
SONS CO.  
2631 Woodward  
Ave., Detroit, Mich.

☐ Please furnish me, free of charge, blue-printed drawing of my parts department as recommended by you. Attached is drawing of my floor plan or building, together with necessary measurements and recommendations I would like to have included. ☐ Please send your free booklet, "Better Parts Merchandising."

Name .....  
Street .....  
City ..... State .....  
Dealer in ..... cars

**DAVID LUPTON'S SONS CO.**

Founded 1871

Main Office and Factory: Philadelphia  
SALES OFFICE: 2631 Woodward Avenue, DETROIT



# High Quality with Well Balanced Costs and Wide Profit Margins—

That is the Farran-oid proposition in a nutshell.

Quality comes first—every Farran-oid product has gained its present recognition among the trade by actual performance. It has *proved* its dependability.

The margin of profit on the Farran-oid line for both distributor and dealer is exceptionally good.

The completeness of the Farran-oid line simplifies stocking and insures quick turnover.

Every time you sell a Farran-oid product you create a permanent customer.

Leading jobbers are prepared to supply your needs on the whole line.

## FARRAN-OID FAN BELTS

Farran-oid Radiator Hose  
Farran-oid Garage Air Hose  
Farran-oid Blowout Patches  
Farran-oid Door Checks  
Farran-oid Car Washing Hose  
Farran-oid Tire Flaps  
Farran-oid Ford Floor Mats  
Farran-oid Tube Patches

THE FARRAN-OID COMPANY, Akron, Ohio

**Farran-oid**  
*Products*

*for Economical Transportation*



# New Measure of Value

Chevrolet represents the highest type of quality car selling at a low price. Public acknowledgment of this fact has been evidenced by a greatly increased demand for Chevrolet cars. This increased demand has resulted in increased production making possible de-

creased prices on closed models and improved quality on all the models. Now Chevrolet provides "Quality at Low Cost" to a greater degree than ever before. Now Chevrolet presents to automobile buyers everywhere *a new measure of value.*

## **The Roadster \$525**

New and improved quality of equipment—  
finished in a new color—gun metal grey Duco

## **The Touring \$525**

New and improved quality of equipment—  
finished in a new color—gun metal grey Duco

## **The Coupe - \$675**

New and improved quality of equipment—  
former price \$715.

## **The Coach - \$695**

New and improved quality of equipment—  
former price \$735.

## **The Sedan - \$775**

New and improved quality of equipment—  
former price \$825.

## **Commercial Chassis - \$425**

## **Express Truck Chassis \$550**

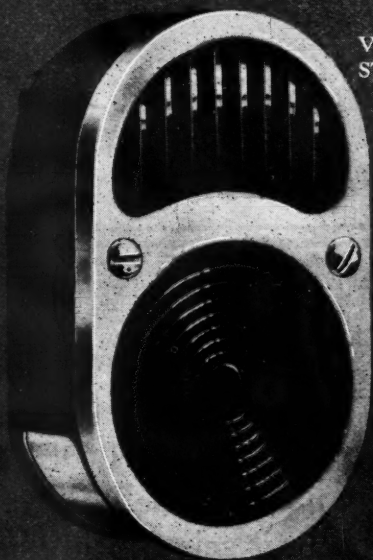
ALL PRICES F. O. B. FLINT, MICHIGAN

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN  
DIVISION OF GENERAL MOTORS CORPORATION

**QUALITY AT LOW COST**



## A LAMP FOR EVERY AUTOMOTIVE NEED

VICTOR No. 36  
STOPLAMPThe Lamp that makes them  
stop and look and buy

ONE of the most popular selling automotive accessories is the stoplamp, and the Victor "Cardinal" shown above, together with the Victor "Vigilant" and "Alert" are outstanding selling successes.

The famous Victor combination of optical accuracy, sturdiness, fine ap-

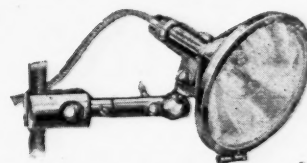
pearance and popular price is the reason.

These three stoplamps cover all requirements. The "Cardinal" fits all cars. The "Vigilant" is for Fords of 1924 model and later. The "Alert" is for all model Fords and includes a license bracket.

Push these lamps for profit.

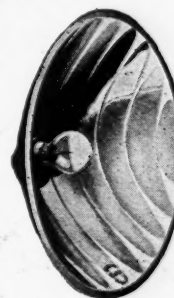
SELL Victor Stoplamps in combination with Victor Parking lamps for complete rear lamp equipment.

**The Victor Line**



VICTOR No. 100 SPOTLAMP

"Pathfinder" by name—an all brass, heavily nickeled, double shell, four-inch quality spotlamp. Holds its place in the spotlight of public favor through sheer merit.

VICTOR  
HEADLAMPS

are equipped with Victor Brown-Universal Reflectors which make them "The Bright Lights of Safety." For perfect road light sell Victor Brown-Universal Reflectors or Victor Headlamps.

VICTOR No. 47-G  
PARKING LAMP

Appropriately called the "Gloworm." A little three-jeweled beauty. Extra jewel in side is green. Sells on sight and suggestion.



THE name Victor on an automotive lighting device guarantees that it is scientifically correct, that it performs the function for which it is intended in a thoroughly satisfactory manner, that it is accurate in form and finish, that it is worthy of the name it bears. An eighty-year-old reputation which we jealously guard is the buyer's guide and guarantee, and the dealer's assurance of a quality product distributed on an equitable basis.

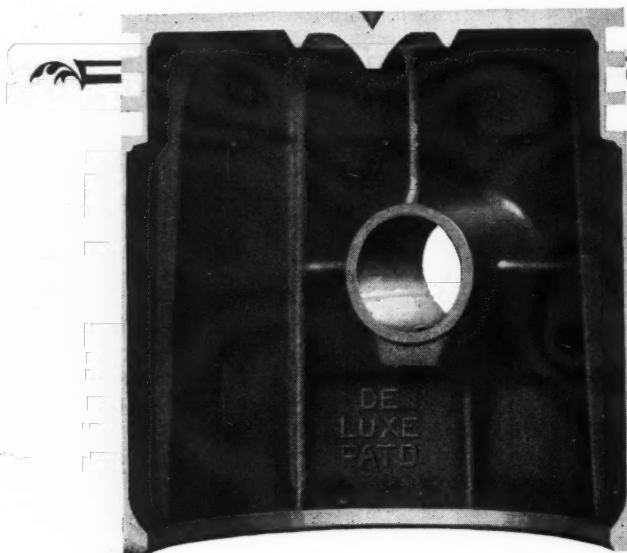
## THE LINE FOR EVERY AUTOMOTIVE DEALER

The CINCINNATI VICTOR CO.

716 Reading Road  
CINCINNATI, OHIO

# Triple Your Piston Sales with the New Improved *DELUXE*

Our 14 points of superiority -  
*Eliminate Competition*



## EVERY MOTOR NEEDS THEM

There is nothing to take its place. The New Improved *DELUXE* is the easiest piston to sell in every territory because it is scientifically designed for every motor, is light weight, keeps cool, will not pump oil, is the only piston built that will stay perfectly round and will outlast any make of piston.

*Now Centrally Located to Give You Service  
Write today for our new catalog*

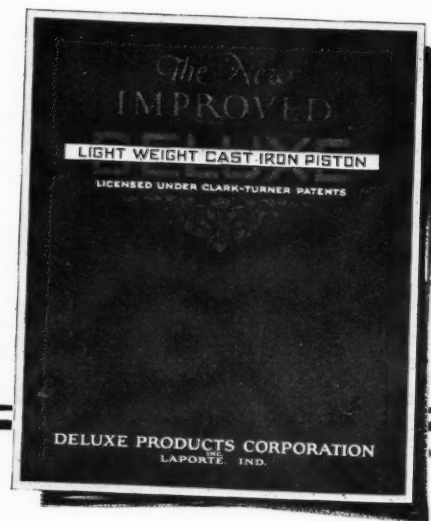
FULLY PATENTED  
SCIENTIFICALLY HEAT TREATED  
GUARANTEED

See the complete story of the New Improved *DELUXE* in our new 24-page catalog.

Carefully Packed in Attractive Cartons—  
Shipped Promptly

**The DELUXE PRODUCTS CORPORATION**  
1235 Lake St. LAPORTE, INDIANA

THE NEW IMPROVED  
**DELUXE**  
LIGHT WEIGHT CAST IRON PISTON  
LICENSED UNDER CLARK-TURNER PATENTS



Nearly 2 Million *DELUXE* Pistons Sold Throughout the World





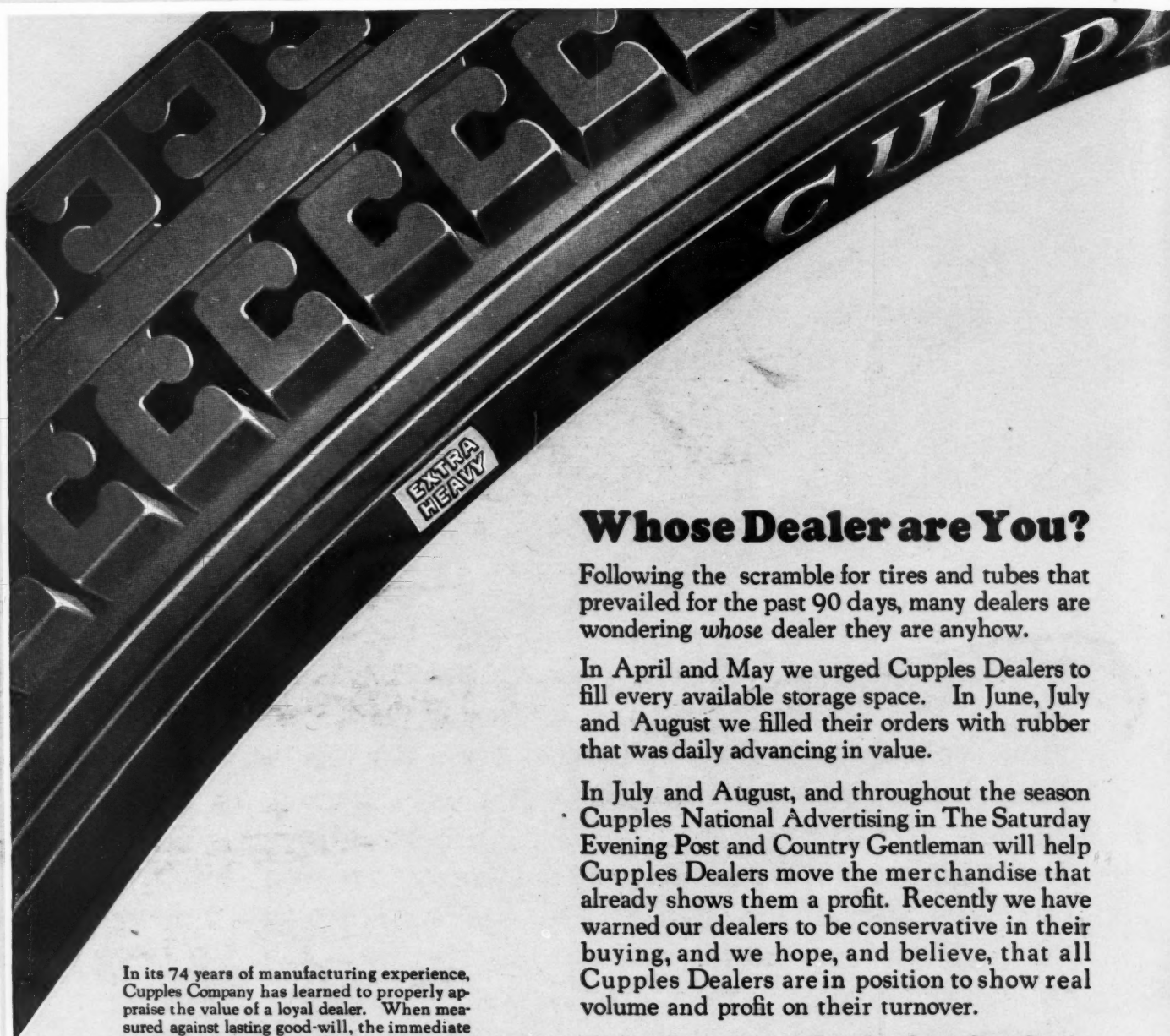
## "Tough as a Rhino"

IN spite of hell and high rubber—the Rhino has kept his bookings the last 90 days. A reserve of rubber that might have been held for higher prices has been used for the benefit of Cupples customers. Back orders are being filled today as fast as tires and tubes can be produced in our factory. When a Cupples Salesman calls on you, he's calling for business. We try to avoid his ever having to call for the purpose of excuse and apology.

# Cupples

TIRES TUBES





In its 74 years of manufacturing experience, Cupples Company has learned to properly appraise the value of a loyal dealer. When measured against lasting good-will, the immediate profit that might follow "expediency" in a price flurry becomes a small matter. We regret that our reserve of rubber could not have been greater, and that in the effort to take care of our old customers we have been obliged to reject much new business that was offered for immediate delivery. Our message here, in turn, is not on a temporary, single-order basis. We invite the correspondence of established dealers who know the value of a dependable franchise on the long haul. We are prepared to take care of such dealers to the best of our ability at all times.

Wire or Write us Today

CUPPLES COMPANY • ST. LOUIS  
A National Institution Since 1851

## Whose Dealer are You?

Following the scramble for tires and tubes that prevailed for the past 90 days, many dealers are wondering *whose* dealer they are anyhow.

In April and May we urged Cupples Dealers to fill every available storage space. In June, July and August we filled their orders with rubber that was daily advancing in value.

In July and August, and throughout the season Cupples National Advertising in The Saturday Evening Post and Country Gentleman will help Cupples Dealers move the merchandise that already shows them a profit. Recently we have warned our dealers to be conservative in their buying, and we hope, and believe, that all Cupples Dealers are in position to show real volume and profit on their turnover.

With their stocks of Cupples Over-Size Cords, Cupples Extra Heavy Cords, Cupples Balloon Cords, and Cupples Inner Tubes, Cupples Dealers can meet every sales opportunity today with a smile.

CUPPLES CORD TIRES  
CUPPLES BALLOON CORDS  
CUPPLES INNER TUBES



# Cupples

TIRES TUBES



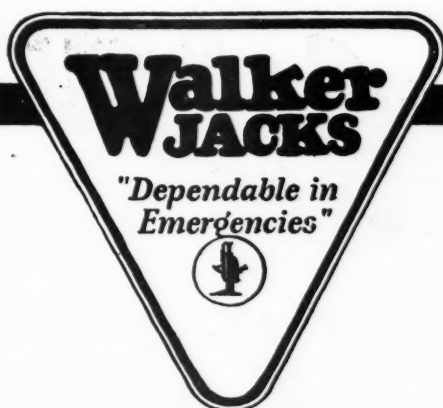




**When the bell is rung and the curtain drops on this year's touring season, ten thousand dealers will have tripled their jack sales by the power of suggestion contained in the Walker Counter Display. I am writing this for the benefit of those dealers who are still selling jacks in the old way, and suggesting that they secure this great merchandiser which comes free with ten Walker Jacks. The Walker Counter Display makes people think and creates in them a desire to own a jack that is always dependable.**

*Willard Walker*

*President.*



**Walker Manufacturing Co.**  
Racine, Wisconsin

*Van says — "If you hold on to a line that moves, you'll never need the bread line."*

## The Gilmer Line Is a Big Parade of Sales

Surprising what a wide-awake dealer can do with Gilmer Super-Service Fan Belts!

There's a good demand for fan belts anyway. Repair shops need them all the time, and every good driver knows he should carry a spare.

A Gilmer Free Display Cabinet practically sells fan belts unassisted. It's a department and a man in itself—makes the customer want a fan belt and keeps track of stock automatically.

Any dealer can get the free cabinet by ordering No. 100 or Special Assortment No. 45—at the regular price. Gilmer pays for the cabinet out of increased sales.



## Dealer's Best Buy in Transmission Lining

Today's slogan is "biggest value for a reasonable price." That hits Gilmer Transmission Lining exactly. It is the most satisfactory lining from the standpoint of both repairman and customer.

There's no trick about the Gilmer Lining. It's just all the fiber a special loom can pound into the right size fabric, treated with the right compound.

It does the work. Ask your jobber.



**L. H. GILMER CO.**  
Tacony, Philadelphia

**SUPER-SERVICE  
FAN BELTS  
TRANSMISSION  
LINING**

# Gilmer







The cuttings shown above are from Federal Bronze. They prove the quality of the bronze, as cuttings from an ordinary granular bronze cannot be made to hold together in this way. The length of these cuttings prove the toughness and wear resisting qualities of the metal.

## Cuttings Tell the Story of a Good Bronze

**H**AVE you ever watched a machinist work a piece of bronze? Every man who buys bronze should see the bronze he buys machined. There is a great difference in the way bronzes machine.

Ordinary phosphor bronze is made up of a granular structure that offers little resistance to wear. When this type of bronze is machined, the cuttings come off in tiny spirals and chips.

Federal Bronze is made up of a fibrous structure that takes a wonderfully fine bearing surface and offers great resistance to wear. When it is machined, the cuttings come off in long, springy spirals—conclusively demonstrating the toughness of this highly superior bronze.

The natural result is that Federal Bronze is used wherever quality really counts.

For piston pin, spring shackle and steering assembly bushings where wear is greatest, use Federal Bronze.

*Federal Bronze cored and solid bars save money on plant maintenance work by lengthening the period between tearing down machines for repairs.*

**FEDERAL-MOGUL CORPORATION**

A Consolidation of the FEDERAL BEARING AND BUSHING CORPORATION and the MUZZY-LYON CO.

DETROIT, MICHIGAN

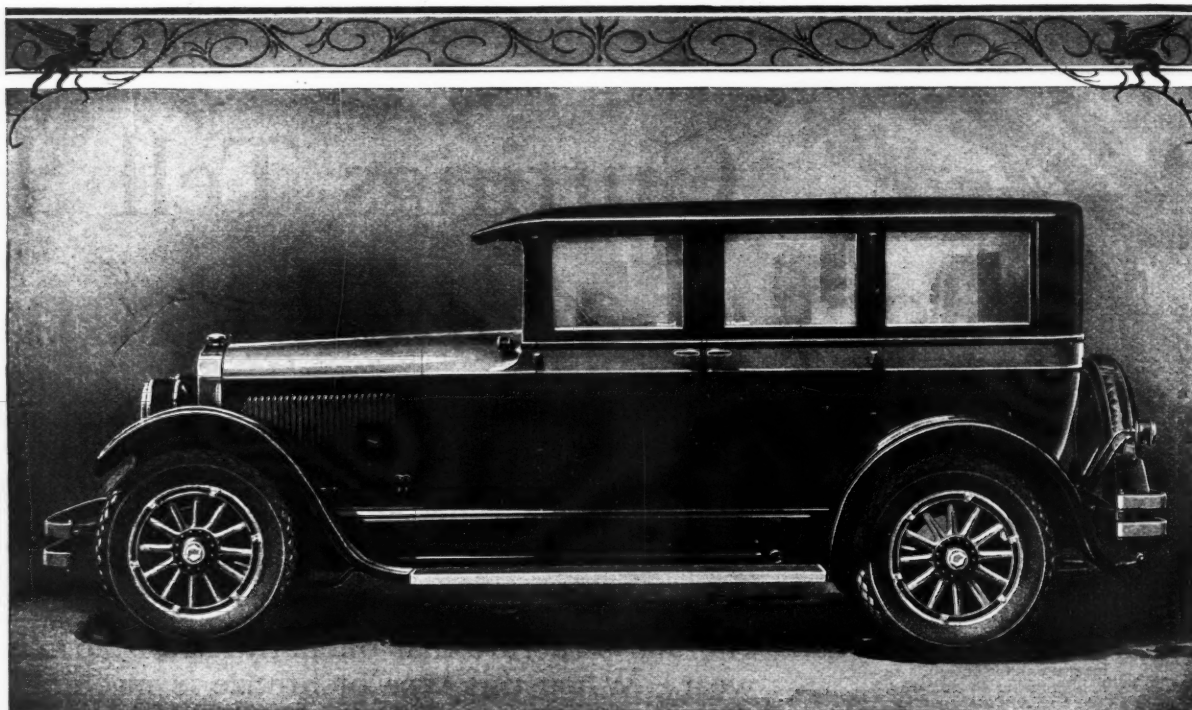


These are cuttings from three different types of ordinary bronzes frequently met in competition. They show more graphically than words ever could the marked superiority of Federal Bronze.

# Mogul FEDERAL

"A manufacturer's reputation is safe with Federal-Mogul products"

1875 — TO COMMEMORATE 50 YEARS OF BUILDING WELL — 1925



The Gardner Six Anniversary Sedan



In 1875, one hundred years after "the shot heard 'round the world" was fired, The Gardner Motor Co., Inc., had its beginning. From the very first, the business grew and prospered. Today, after *fifty years of building well*, public acceptance of the fine new Gardner Six and Gardner *Eight-in-line* is in keeping with the approval accorded all Gardner products.

And now, as we pause to take stock of ourselves on this, our Fiftieth Anniversary, we wish to acknowledge our only debt—one of gratitude to staunch friends and co-workers the world over—and to pledge anew continued allegiance to the Gardner ideal of always building well.

In commemoration of this event, we announce the Gardner Fiftieth Anniversary Sedan—a full-size, 4-door sedan body on both the *Eight-in-line* and Six chassis. The *Eight-in-line* at \$1995—exactly the same price as the open car! The Six at \$1595—equipment considered, the lowest price at which a Gardner closed car has ever sold!

And a Net Profit on Every Sale for Every Gardner Dealer!

THE GARDNER MOTOR COMPANY, INC., ST. LOUIS, U. S. A.

# GARDNER

GARDNER ASSURES YOU A NET PROFIT ON EVERY SALE





*Good bye, buggy wheels*



## Now motor-cars have a better wheel for the job , , , *Budd-Michelin*

SUPPOSE you could film the history of the automobile from the time of the first horseless carriage . . .

Could watch one season's models fade into the next . . .

Could see the jumbled architecture of those primitive machines slowly melt into the simple stream-lines of today . . .

What sweeping changes would take place before your eyes! Everything would be revolutionized—everything but the wheels!

For during twenty years of constant change the wheels were the one part the designers never touched. What could wheels add of beauty or comfort or convenience or safety?

True! Those glorified buggy wheels could add nothing that helped sell a car.

Then a great engineer quit thinking in terms of buggy wheels. He realized that wooden wheels were as poor a foundation for a steel motor-car as frame cellar-walls would be for a masonry house.

Steel was the logical material. With steel he turned the wheels out of their rut . . . modernized wheel design to meet modern conditions.

He built the only *convex* wheel, utilizing the resilience of steel to the utmost in saving the car from road shocks . . .

Permitting the placing of brakes

and king pins *within* the wheel for better braking and easier steering . . . for greater protection of brakes from mud and water.

He built a *demountable* wheel that hides the brakes but makes them immediately accessible.

The Budd-Michelin—a wheel that looks . . . acts . . . says "automobile"!

Other steel wheels have followed, but Budd-Michelin carries more motor vehicles in America than all its imitators combined.

Good-bye, buggy wheels—you never gave a dealer anything to talk about . . .

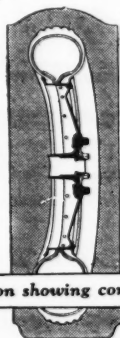
Now we have Budd-Michelin—a *selling* feature of the car! Read the list of advantages.



*Detroit and Philadelphia*

**BUDD-MICHELIN—the All-Steel Wheel**  
*gives you these advantages:*

—a scientific convex form, increasing resilience, and permitting the placing of brakes and king pins *within* the wheel, for better braking and easier steering—for greater protection of brakes from mud and water



*Cross-section showing convex design*

—a demountable wheel which hides the brakes, but gives immediate access to them when adjustments are needed  
—a light wheel (lighter than wood) tapering toward the rim, making starting and stopping easier  
—five wheels to a set. An extra wheel to dress up the rear of the car, easy to substitute in case of tire trouble. No rims to remove  
—everlasting strength, promoting safety. Triumphant beauty!

# Why does Oxweld have apparatus repair stations for you?

## Apparatus Repair Stations

**I**F YOU are a user of Oxweld apparatus, your equipment undoubtedly will be working efficiently, because Oxweld fieldmen inspect it from time to time, make adjustments, and supervise minor repairs.

Furthermore, when major repairs are necessary, these can be made at once by the nearest apparatus repair station listed below. These repair stations make it unnecessary to ship your apparatus hundreds of miles across the country to one of our factories. Delays are reduced to a minimum.

### OXWELD APPARATUS REPAIR STATIONS

Boston . . . . .	Massachusetts
Newark . . . . .	New Jersey
Philadelphia . . . . .	Pennsylvania
Baltimore . . . . .	Maryland
Buffalo . . . . .	New York
Pittsburgh . . . . .	Pennsylvania
Birmingham . . . . .	Alabama
Cleveland . . . . .	Ohio
Chicago . . . . .	Illinois
Detroit . . . . .	Michigan
Houston . . . . .	Texas
Minneapolis . . . . .	Minnesota
Omaha . . . . .	Nebraska
St. Louis . . . . .	Missouri
Tulsa . . . . .	Oklahoma
Salt Lake City . . . . .	Utah
Seattle . . . . .	Washington
San Francisco . . . . .	California
Portland . . . . .	Oregon
Los Angeles . . . . .	California

**R**EGARDLESS of how well oxy-acetylene apparatus is made or how carefully it is used, repairs, replacements and adjustments will be needed if the equipment is to function efficiently day in and day out. In this your oxwelding apparatus is like your automobile.

The automobile makers early learned that repairs for the entire country could not be made at the factory. No owner could afford the delay. Oxweld learned the same lesson, and has already established apparatus repair stations in 20 industrial centers.

Every one of these 20 repair stations is factory supervised and gives Oxweld users quicker and more economical service than would be possible if the apparatus had to be shipped to a distant factory.

When you buy oxy-acetylene apparatus remember that from time to time it will have to be adjusted or repaired and inquire about facilities for this service.

### OXWELD ACETYLENE COMPANY

Chicago  
3642 Jasper Place

Long Island City, N.Y.  
Thompson Ave. & Orton St.

San Francisco  
1050 Mission Street

# Oxweld

## WELDING AND CUTTING APPARATUS

WORLD'S LARGEST MANUFACTURERS OF WELDING AND CUTTING EQUIPMENT



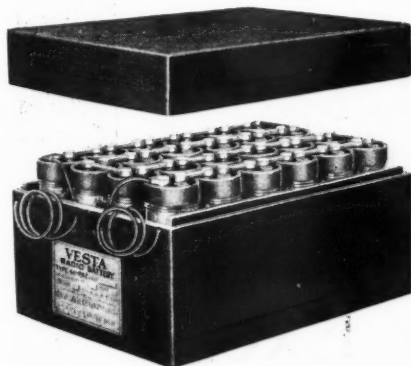


*The*  
**RADIO  
SEASON  
IS HERE**

*to Help Swell Vesta Battery Sales!*



Vesta Radio "A" Batteries



Vesta Radio "B" Batteries

Here comes the Fall and Winter business in Vesta Radio Batteries. Millions of radio owners are getting back into head phones and pulling up chairs in front of loud speakers. Most of them will have to buy new batteries after the summer lay-off—and you can quickly sell them Vesta with its superior qualities, wide range of types, capacities and competition-beating prices.

## Get Started on These Profits Now

Start **selling** VESTA Radio Batteries now. Talk radio to every customer you have, and build profits for your winter battery business that will astonish you.

There's money in VESTA Battery sales for dealers—and service for those who buy. So get out, and get busy—and have plenty of VESTAS on hand, **because they sell.**

And that applies to VESTA Auto Batteries as well as to the Radio line.

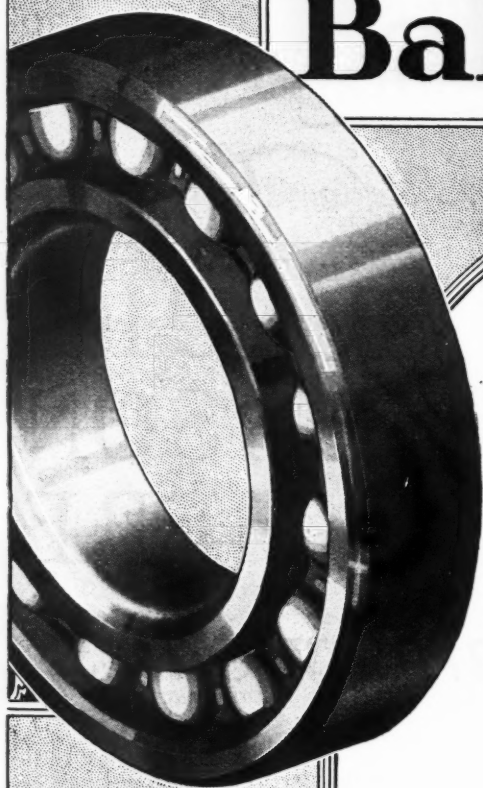
Vesta Battery Corporation  
2100 Indiana Ave.,

Chicago, Ill.

# VESTA

COSTS LESS PER MONTH OF SERVICE

# New Departure Ball Bearings



## *Racing O. K.'s the Ball Bearing*

The automobile race track tells in a few hours what usually takes several years to reveal regarding the practical efficiency of automobile parts. It makes tests under conditions that are abnormally severe.

It is, therefore, a revealing fact that the ball bearing has become standardized as *the* anti-friction bearing for racing cars.

Furthermore, that builders and drivers have been practically unanimous in their choice of New Departures for the past six seasons.

\* \* \* \* \*

Since performance can be the only consideration in the selection of bearings for this purpose, we will discuss in this series of advertisements the underlying factors in the superior quality and endurance which has made New Departures preferred.

229

## Outsell Because They Excel





*They Make  
Light Work  
of Heavy Jobs*

Posed by  
Yvonne Grey  
of the Zieg-  
feld Folies,  
New Amster-  
dam Theatre,  
N. Y.

JACOBS  
CHUCKS  
Standard  
Equipment

**U.S. PORTABLE  
ELECTRIC  
DRILLS**

**GRINDERS - POLISHERS**

*The Good Mechanic Knows*

## Even Sandow limited his weight- lifting to twice a day

There's a husky in every shop who can h'ist the rear end of a car off the floor with his bare hands—*on a bet*. He'd be pretty dumb to do it for a living.

Hole drilling with a hand drill while not as stunky as lifting cars certainly used to make the old shoulders squeak too—until the portable electric drill came into use.

But until all portable electric drills operate as easily as a U. S., hole drilling will still be a muscle-taxing job.

Beautifully balanced, light, strong and speedy with an S. K. F. at *every* essential bearing point, U. S. Portable Electric Drills have taken all the fatigue out of hole drilling.

And even the price is in your favor.

Write for Catalog No. 105.

Buy by comparison.

COMPLETE  
STOCKS  
CARRIED  
IN ALL  
SERVICE  
STATIONS

Boston  
Buffalo  
Chicago  
Cleveland

Dallas  
Detroit  
Houston  
Kansas City  
Los Angeles  
Minneapolis  
New York  
Philadelphia  
Pittsburgh  
St. Louis  
Toledo  
San Francisco

**THE UNITED STATES ELECTRICAL TOOL CO. CINCINNATI, OHIO, U.S.A.**

*Oldest Builder of Portable Electric Drills in the World*



# HOLMES WRECKERS

## Made us \$24,000, in Tow Fees Last Year



**J. H. CUTOFF**

Proprietor Davenport Garage, Omaha, Neb., has written this advertisement for Holmes Wreckers. It is the fifth of a series written by the leading garage men of this country for the Ernest Holmes Company.

Last year when everyone was complaining about business being dull and garage after garage was losing money—our two Holmes Wreckers were busy day and night—they averaged making five hundred service calls each month and we received an average of \$4.00 fee for each call—making us \$24,000.00 in tow fees alone, or \$12,000.00 for each wrecker—not so bad—Do you think?

They tell us this year is slower than last, but listen—in February, the shortest month in the year, we had 561 calls for our Holmes Wreckers which meant over \$2,200.00 in tow fees and, “man alive”, this is the small end, for they bring us the biggest, cleanest and most profitable repair jobs that we get. They have increased our repair business over 200%.

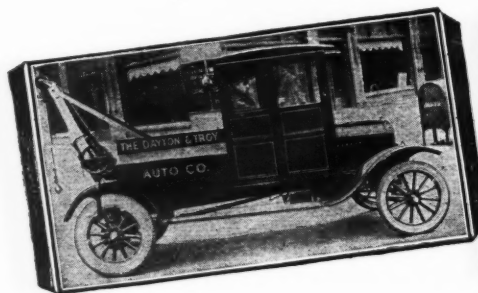
Before we put on our Holmes Wrecker we had a very nice business, but small. Now we keep seven mechanics busy all the time and frequently more. We cannot say too much for Holmes Wreckers. We cannot conceive of anything that will make as much money for a garage as a Holmes Wrecker. We unhesitatingly advise any garage that wants to keep busy—that wants to make money—to get a Holmes and get it quick—it will pay ten fold over.

**DAVENPORT GARAGE,**

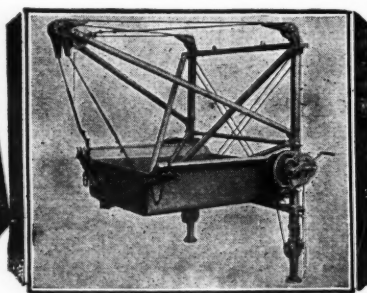
**J. H. Cutoff, Prop.**

Ask your Jobber to tell you about the three types of Holmes Wreckers, Holmes Cantilever Jack, Holmes V Tow Bars and Holmes Towing Pole or write this company for complete information about Holmes Equipment.

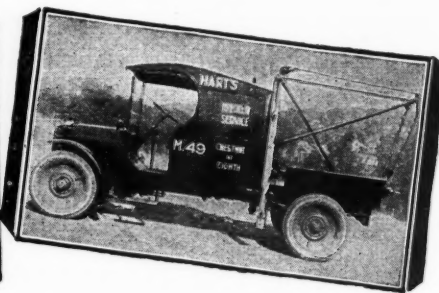
**ERNEST HOLMES COMPANY, Chattanooga, Tenn.**



**Holmes Wrecker No. 110**



**Holmes Wrecker No. 485**

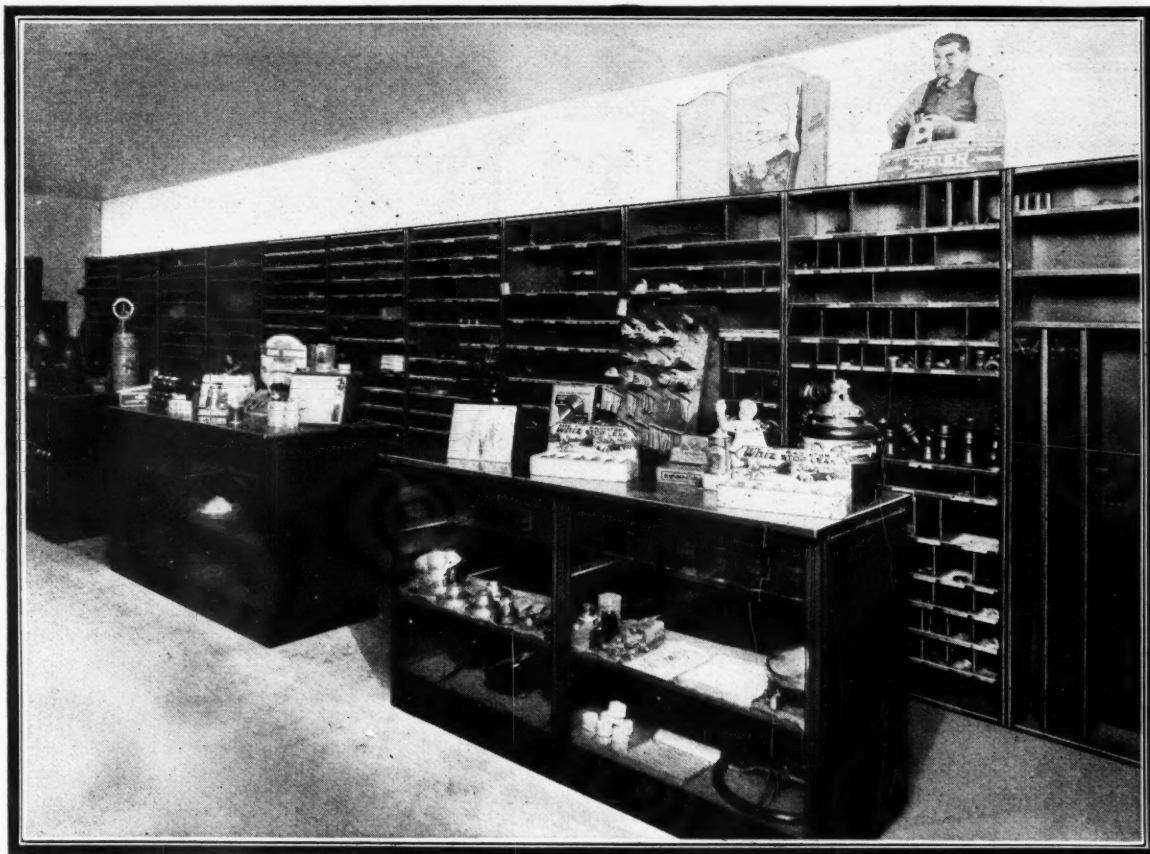


**Holmes Wrecker No. 250**



# LYON AUTO PARTS CONTROL

*Steel Storage Equipment for Automotive Parts*



## Down on the Rio Grande

This photograph of McCauley's Service Station in Del Rio, Texas, shows the modern way in which the Texans of today get automotive service.

Here is a display and an orderly arrangement of goods that would do credit to any merchant. It is typical of all garages and service stations equipped with Lyon Auto Parts Control Systems.

An appearance like this makes for better business. An arrangement like this makes for easier store keeping. Both make bigger profits possible.

A Lyon Auto Parts Control System will care for any storage need. The units can be moved or added

to without trouble. They are rigid and durable.

Rigid, too, are the Lyon Steel Counters. One may be stood on its corner without jamming the dust-proof steel doors. The heavy linoleum top stands long, hard wear. The counters are smooth—no sharp edges—and handsomely finished in enamel that lasts.

The rapid adoption, by service stations, dealers and garages, of Lyon Auto Parts Control Systems bears out our belief that no other equipment offers equal advantages no matter how many or what makes of cars are serviced.

Write us about your stock and we will give you complete information about the equipment you need.

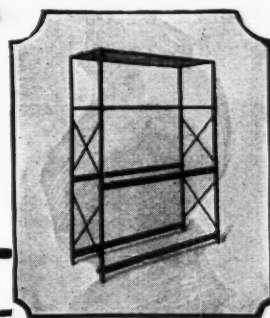
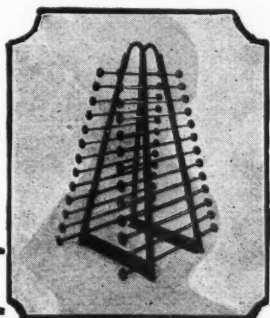
## Lyon Metallic Manufacturing Company

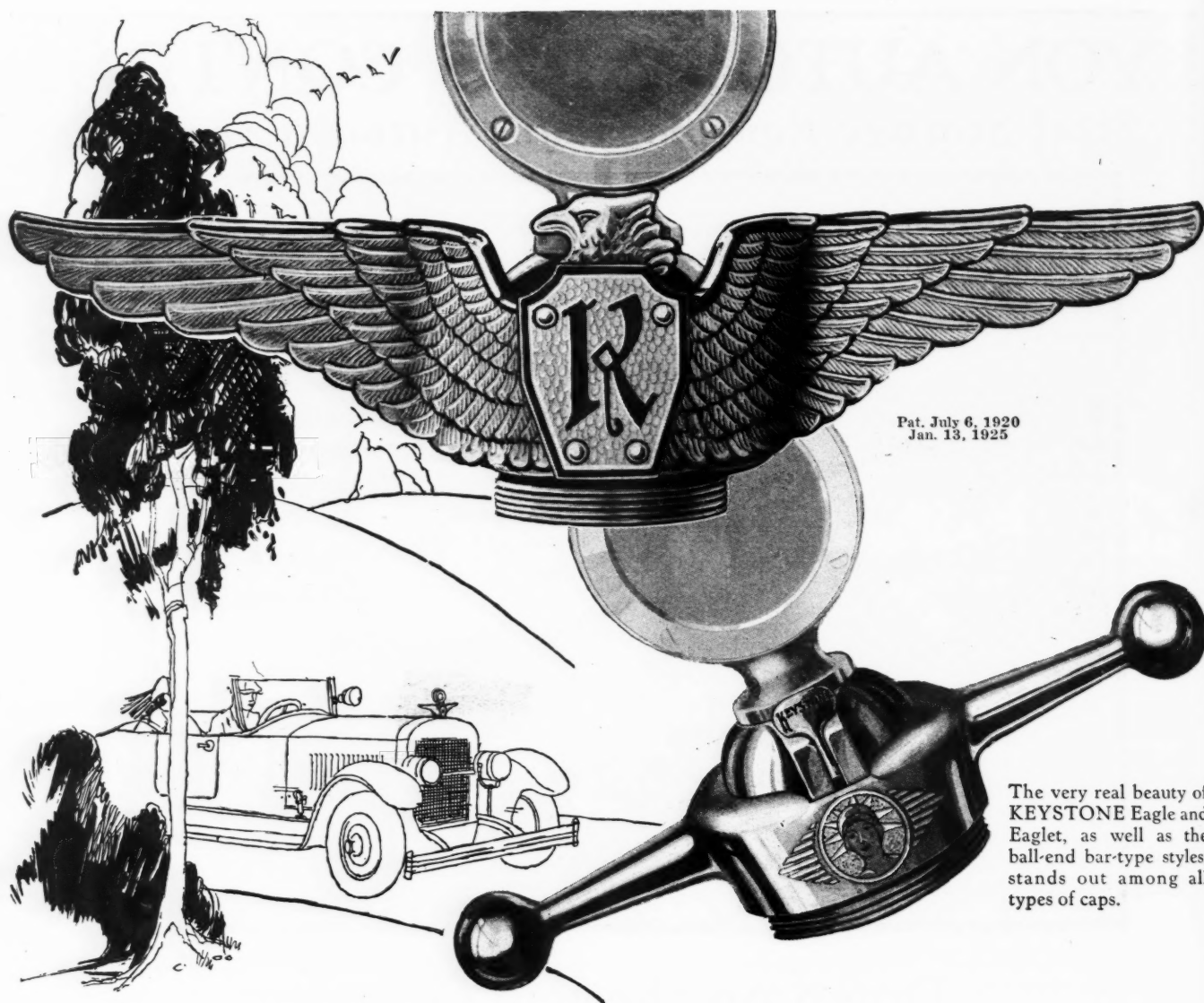
**Aurora — Illinois**

Lyon Auto Parts Control Systems are sold by  
leading Automotive Jobbers



*for every storage need*





Pat. July 6, 1920  
Jan. 13, 1925

The very real beauty of KEYSTONE Eagle and Eaglet, as well as the ball-end bar-type styles, stands out among all types of caps.

## *The Story the Highways Tell Proves Keystone Popularity*

**N**OTICE the outstanding number of KEYSTONE Caps on cars you pass on National Highways, country roads, and city streets. You will realize the public is selecting radiator dress for all types of cars, with a close appreciation for things that make a worthwhile investment.

Time proven mechanical features and, lastly, their low price, have made KEYSTONE the

fastest selling line of Caps in America. They mean prestige and profit for dealers. They mean customer satisfaction and good-will. It is easier to sell KEYSTONE than to try to substitute another.

Stock this preferred line today. If your jobber can't supply you, write us direct. Don't delay. Your big season is here.

**THE NORLIPP COMPANY**  
568 W. Congress St., CHICAGO

# KEYSTONE

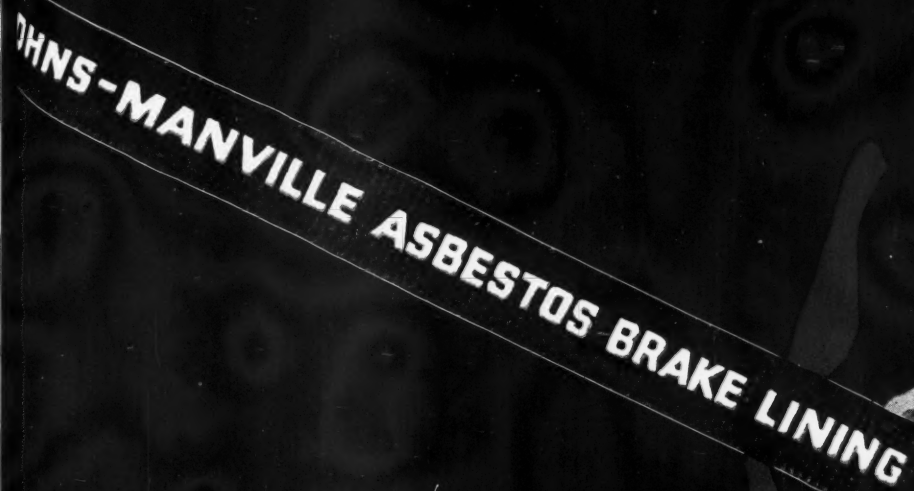
SELF-LOCKING

# RADIATOR CAPS



This Display Card sells KEYSTONE Caps. It means profit to dealers who display it. Send for yours today.





JOHNS-MANVILLE ASBESTOS BRAKE LINING

*Curbing*  
25,000,000  
horsepower

*The daily task of:—*

**JOHNS-MANVILLE**  
Asbestos Brake Lining

# Curbing 25,000,000 horsepower — 3 reasons why

JOHNS-MANVILLE ASBESTOS BRAKE LINING

You'll want  
this book!

It contains more  
ways to sell brake lin-  
ing and re-lining jobs  
than you ever thought  
possible. Write for it.  
It's a profit-getter.

Dollars and  
Sense in  
Brake Lining



JOHNS-MANVILLE Asbestos Brake Lining is holding in check, every day, a total of 25 million horsepower in America's motor cars. Three reasons for the tremendous popularity of this lining are:—

1. Motorists know the reputation of Johns-Manville as asbestos specialists. They know, from daily use, that brakes are safer and last longer with Johns-Manville Asbestos Brake Lining.
2. Dealers like to stock it because of its ready consumer acceptance.
3. Repairmen like to re-line with it not only because of the quick turnover, but because with its application they know their job is finished.

## JOHNS-MANVILLE

JOHNS-MANVILLE Inc., 292 Madison Ave. at 41st St., New York City  
Branches in 63 Large Cities

For Canada: CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

**ASBESTOS BRAKE LINING  
CLUTCH FACINGS ~ PACKINGS ~ ETC.**

Printed in U. S. A.



# Rickenbacker

A • CAR • WORTHY • OF • ITS • NAME

## Going Up!

Rickenbacker's progress is one of the most talked of phenomena of the trade.

First, the car won for itself a distinct niche in engineering circles.

The product established itself the first year and during the next three years consolidated that position.

Now the company has been accorded a place among the great industrial and financial institutions of America.

On July 28th Rickenbacker Motor Company celebrated its fourth anniversary.

And that month, July, proved

to be the biggest month in Rickenbacker history.

More than 400 per cent increase over the same month in 1924.

Books showed a most satisfactory balance on right side of the sheet — and best of all, reports from the field show that all distributors of the product are making money.

Demand — now — August — is simply amazing.

Month by month—day by day —Rickenbacker is going up.

Does this suggest anything to you?

If so—write the Sales Manager.

### Rickenbacker Motor Company Detroit, Michigan

#### Famous "Six" Prices

Phaeton . . . . .	\$1495
Coach-Brougham . . . . .	1595
Roadster . . . . .	1595
Coupe-Roadster . . . . .	1695
Sedan . . . . .	1795

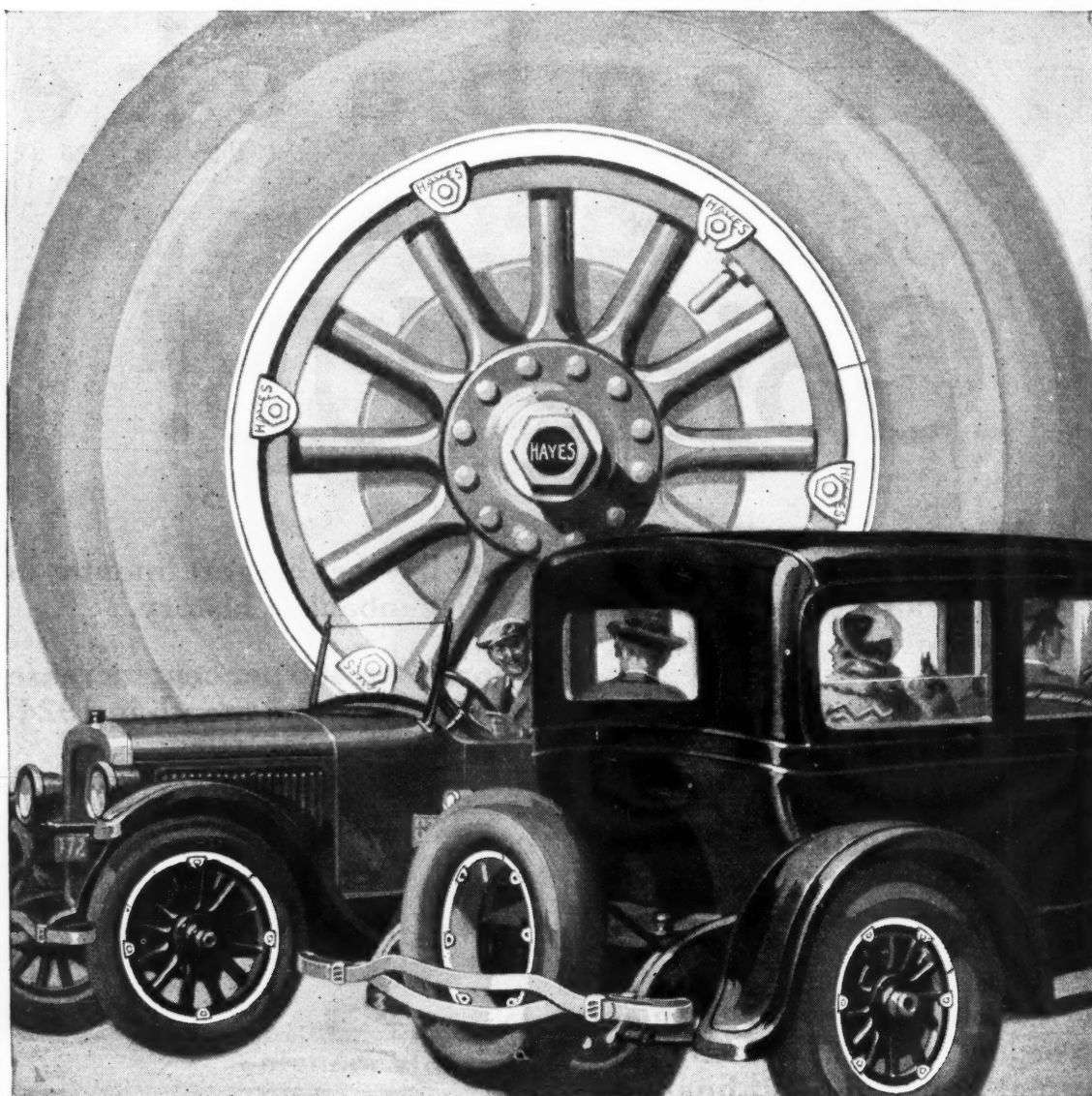


f. o. b. Detroit—plus wear tax

#### Vertical "Eight" Prices

Phaeton . . . . .	\$1995
Brougham . . . . .	1995
Roadster . . . . .	1995
Coupe-Roadster . . . . .	2095
Sedan . . . . .	2195

## 40 MILLION HAYES WHEELS IN 17 YEARS

Is *your* car Hayes-wheel equipped?

Look for the attached lug on the rim, the name Hayes on the lug, whether on wood, wire or disc wheels and you may have the comfortable feeling of knowing that the maker of your car has given you the last word in wheel and rim equipment.

You no longer need dread a flat tire, for the time required to change Hayes rims is reduced to a minimum. No loose lugs to fumble for in the dirt, and adjust. The lugs are attached to Hayes rims and are always in position. You are through with squeaky rims.

Hayes rims are locked in position, cannot slip and cannot run out of true. Every lug acts as a driver. These features lessen tire wear and eliminate stripped valve stems.

Hayes wheels are the result of seventeen years' experience in manufacture. In this period forty million Hayes wheels have been put in service on cars of all classes from America's lowest to highest priced.

If you are not now enjoying the advantages of Hayes wheels and rims, on your next car specify this equipment.

**HAYES WHEEL COMPANY, *Manufacturers*, Jackson, Michigan**

Factories: Jackson, Albion, Flint, St. Johns, Mich.; Anderson, Ind.; Nashville, Tenn. Canadian Plants: Chatham and Merriton, Ont. Export Office: 30 Water St., New York City.

# HAYES WHEELS

WITH ATTACHED LUG RIMS ~ STANDARDIZED IN WOOD, WIRE AND DISC





# WHAT THE JUNIOR EIGHT *built by Locomobile Co., of America, Inc.* MEANS TO DEALERS

THE Junior Eight offers the better class of automobile dealers and distributors the greatest merchandising opportunity in a decade. No other eight cylinder car, regardless of price, has ever offered more important improvements than those found in the JR-8.

In producing the JR-8, Locomobile is merely taking the leadership in another field—this time in the eight cylinder class—with a product so well built and so remarkably low priced that it stands alone with a brand new market waiting for it.

Production on the new Junior Eight has now reached a point where it is possible to increase dealer representation. Applications from those who have the facilities to develop and handle the big volume of business which can be developed with the Junior Eight will be given prompt and careful consideration. Write or wire.

LOCOMOBILE COMPANY OF AMERICA, INC.  
Bridgeport, Conn.

*Prices f. o. b. Bridgeport, Conn.*

TOURING \$1785

ROADSTER \$2150

SEDAN \$2285

BROUGHAM \$2285



# Don't Get in Wrong with **YOUR Customers**

When a man buys a car from you he buys it on your word as to how well that car will perform.

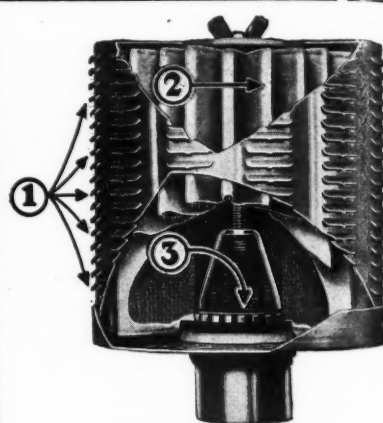
He takes your word as to the efficiency and value of every part of the car.

If *anything* goes wrong or fails to come up to what you have given him a right to expect, he holds you responsible.

The man who buys a car today knows that clean air prevents wear on the motor and reduces the formation of carbon to a minimum.

Now there is only one device on the market or that is used as standard equipment on passenger cars that keeps enough dust, sand and grit out of the motor to prevent an appreciable amount of wear.

That one device is the Protectomotor

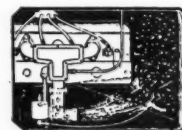


**1** Air enters large number of small openings in outer shell at low velocity so the coarse particles of dust are separated by gravity.

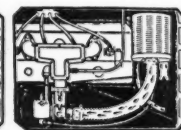
**2** Specially constructed filtering material, chemically treated, removes even the finest (those that cause wear) particles of dust but readily permits air to pass through.

**3** Pure, clean, FILTERED warm air passes through this outlet to carburetor and motor, the fine dust (the cause of wear) entirely removed.

Important:—Protectomotor is made of aluminum and rust-proof material throughout. Due to highest grade of workmanship and material it presents an unusually attractive appearance.



Dusty Air  
that causes wear



Filtered Air  
that prevents wear

## PROTECTOMOTOR

REG. U.S. PAT. OFF.

Perfect Positive Protection

Protectomotor is 99 9/10% efficient.

Protectomotor alone delivers clean air to the motor. Protectomotor stops disagreeable carburetor noises.

Protectomotor requires no attention and has no moving parts to wear out.

If you make your own comparisons and tests we believe you will agree with us that the only way to be sure that your customers will be satisfied is to put a Protectomotor on every car you sell.

# STAYNEW FILTER CORPORATION

ROCHESTER, N. Y.

*A Motor Without a Protectomotor Is Like a Watch Without a Case*

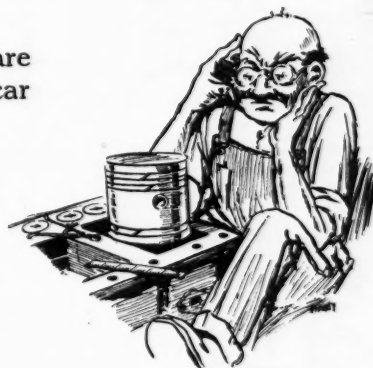


# If Cylinders Were Square!

Ridiculous we admit, but a round ring fitted to a square cylinder would perform about as satisfactorily from the car owner's standpoint as round rings fitted to an oval cylinder.



In either case the resulting compression loss, oil passing and crank-case dilution mean dissatisfaction to the owner and trouble for you.



Avoid this trouble. Guarantee every ring job and get an extra profit by removing the oval taper condition with the

## Hall Cylinder Hone

New  
Improved  
Model

# \$35

You can fit new rings to HALL-honed cylinders and know the job won't come back on you showing oil passing, compression loss and crank-case dilution. Placed in an oval cylinder and the cones tightened, two of the stones are pushed against the cylinder wall at the point of the smallest diameter. As the hone revolves, two stones, alternating with the other two, do all the cutting until the hone is perfectly round. That's because all four stones are under equal pressure at all times.

Spring or  
Solid Pres-  
sure in one  
Hone

## The First Four Jobs

### Pay for the HALL

The first four re-conditioning jobs that come to your shop repay the moderate cost of the Hall Hone with a slight additional profit. Many shops charge from \$2 to \$3 per cylinder for honing while others charge \$2 per cylinder for the use of the Hone, plus the regular labor charge. Four four-cylinder jobs and the Hall Hone has brought you \$40. And at a substantial saving to the car owner over the ordinary re-grinder's charge. Rarely is it ever necessary to remove the motor from the chassis.

The HALL, by enabling you to fit round rings in round cylinders pays an added profit in satisfied customers.

## The Hall Mfg. Company

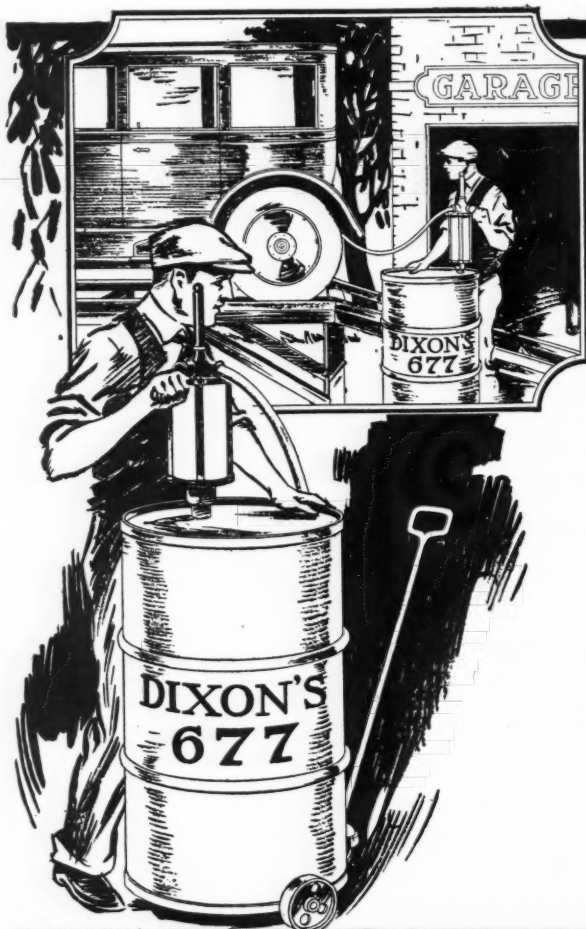
508 Hall Bldg.

1600-06 Woodland Ave., Toledo, Ohio



Ask  
Your  
Jobber

for the Hall Hone. There's no substitute for the Hall Patented Principle so if your jobber can't supply you, accept no other but write direct to us for complete information, giving jobber's name.



# DIXON'S 677

## For Transmissions and Differentials

The gears of thousands of cars and trucks are lubricated with Dixon's 677.

Thousands more will use it tomorrow. And dealers who sell to these increasing thousands are building a growing business.

Heat, cold and pressure do not affect Dixon's 677 and the presence of selected flake graphite reduces wear by preventing metal-to-metal contact.

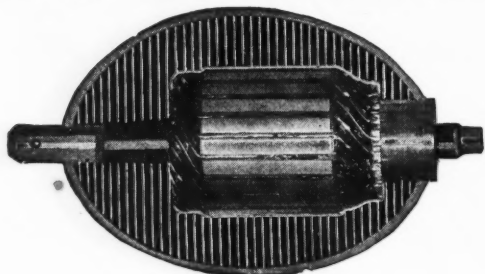
There is a large and fast growing business in your community if you handle DIXON'S 677.

Write for Dealer Deal No. 82-G.

**JOSEPH DIXON CRUCIBLE CO.**

Jersey City, N. J.

ESTABLISHED 1827



### Doing the Rewind Job RIGHT!

At the Fredericks plant quantity production has made possible a lower rewinding rate. But still the same good quality. Every Frederick's rewind is insulated. The 90 day guarantee makes profits sure. Get the interesting booklet that gives complete prices and other information.

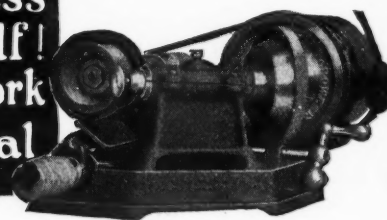
FORD GENERATOR Armatures Rewound.....	\$1.50
FORD Starter Armatures Rewound.....	1.50
ALL OTHER TYPES TWO-UNIT Generator Armatures Rewound .....	3.25
ALL OTHER TYPES TWO-UNIT Starter Armatures Rewound .....	3.25
ALL TYPES MOTOR GENERATOR Armatures Rewound .....	8.00

GUARANTEED to give the same satisfaction as new armatures.

The H. M. FREDERICKS CO., Lock Haven, Pa.

**FREDERICKS**  
Rewinding Service

Costs Less  
than Half!  
Better Work  
Free Trial



### CROWE CUP WHEEL VALVE REFACER

Price Only

**\$85.00**

Complete

EASY TERMS

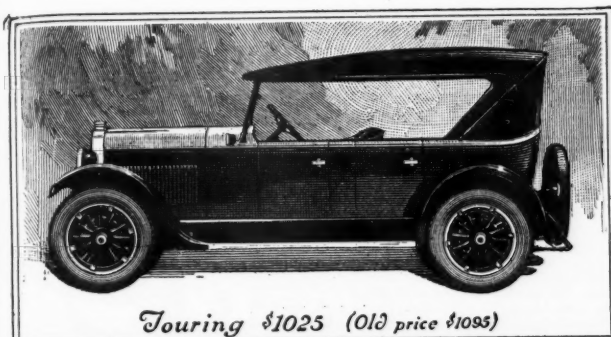
THE astonishingly low price of this machine puts it within the reach of every auto repair shop. The big shop can give better service with the Crowe. And with this machine the small shop is fully equipped to give the same high grade valve service as the big shop.

But aside from its money-saving price, the Crowe has many special features that make it preferable.

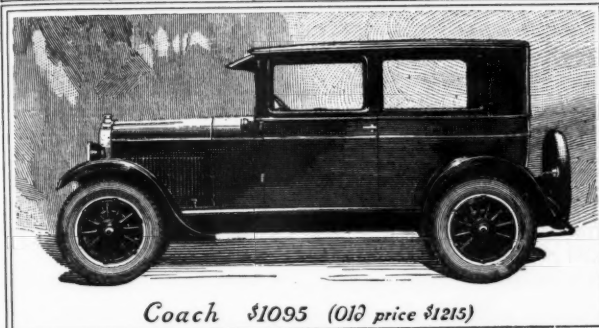
We would like an opportunity to give you the complete details of this improved valve face grinder, our easy extended-payment terms, and our Free Trial Offer. Will you write us today for this information?

**LISLE MANUFACTURING COMPANY**  
CLARINDA, IOWA

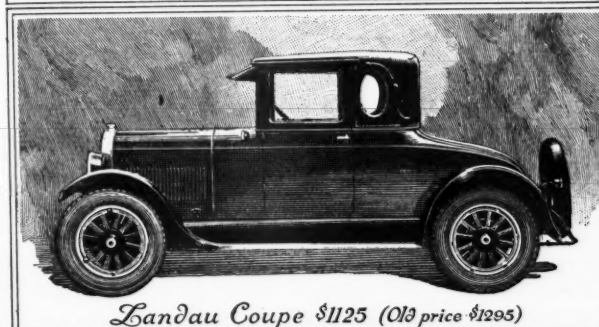




*Touring \$1025 (Old price \$1095)*



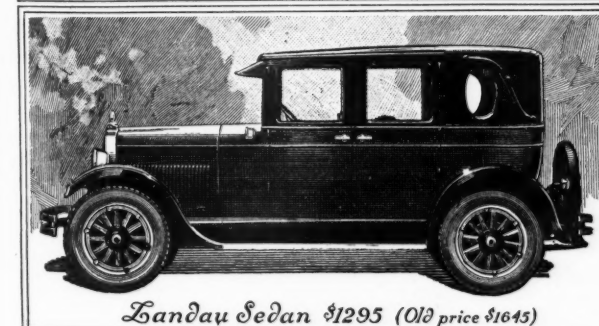
*Coach \$1095 (Old price \$1215)*



*Landau Coupe \$1125 (Old price \$1295)*



*Sedan \$1195 (Old price \$1545)*



*Landau Sedan \$1295 (Old price \$1645)*

*All Prices at Factory*

WINNING AND HOLDING GOOD WILL

OAKLAND SIX  
PRODUCT OF GENERAL MOTORS

# New Prices \$70 to \$350 Lower

To add to quality is one thing. To effect lower prices is another. But to *do both*, in cars already unmatched in performance, appearance and value, is an achievement without parallel.

This is just what Oakland has accomplished in its new cars. More than 100 improvements have been added, including new Bodies by Fisher, Air Cleaner, Oil Filter, Four-Wheel Brake refinements and The Harmonic Balancer—yet prices are \$70 to \$350 lower.

OAKLAND MOTOR CAR COMPANY, PONTIAC, MICHIGAN



# TENAX

"Original Blue Sheet"

## COMPRESSED ASBESTOS SHEET PACKING

### Packs the Hot Places

Wherever there is heat, and packing is required, you will find it best to specify TENAX. TANPAC Fibre Sheet Packing is always available for oil, grease, water, gasoline, etc., and places where there is no heat.

There are 25 or more places on every car where these two packings can be used with extreme success. ASK FOR THEM BY NAME.

Write for literature covering the entire ADVANCE line.

### ADVANCE PACKING & SUPPLY CO.

808 Washington Blvd. Chicago, Ill.

Pacific Coast Distributors: Allied Industries, Inc., Los Angeles, San Francisco, Portland, Seattle

## MOTOR AGE'S FLAT RATE MANUAL

THE most complete Flat Rate information ever offered the trade—originally published in MOTOR AGE of April 30th, 1925—is now available in booklet form at 50 cents a copy.

277 Operations and 42 Cars are covered in this new manual. If you want the latest and best information on the subject, don't be without it. It only costs

50 cents

# MOTOR AGE

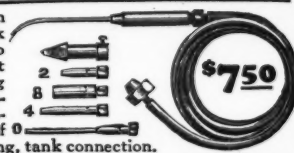
5 So. Wabash Ave. Chicago, Ill.

## TURN WASTED TIME INTO MONEY!

Every Purchaser Finds Numerous Uses for the  
**Torit Acetylene Torch No. 13**

Uses Acetylene Only. No oxygen or air pressure required; tips suck in air. Simply connect to Presto auto tank, light gas, and the outfit is put to work. Beats anything you ever tried for soldering, heating, melting or light brazing. Consists of 4 tips for different kinds of work, soldering copper, 5 ft. tubing, tank connection.

**ST. PAUL WELDING & MFG. CO.** 169 Third St., St. Paul, Minn.



## "DUS-PRUF"

All Metal Trunks for practically any of the well known makes of cars—

*The Trunk that will not rumble.*

Manufactured by

### GENERAL DISTRIBUTING CO.

Office 3-131 General Motors Bldg., Detroit

## You can locate Light Trouble immediately

—if you have this book

### "Electrical Equipment of the Motor Car"

Electrical Equipment of the Motor Car is a book full of valuable information needed by every garage and service station man. Send \$3.50 for ten-day examination. Return book if not satisfied and we will refund your money. Act now.

A working guide on the installation, care and repair of the starting, lighting and ignition system of all cars. Makes it a comparatively easy task to trace out and locate all cases of electrical trouble in a very definite and systematic way. A most valuable text-book that no mechanic should be without. Take advantage of our special 10-day offer. Send money with your order—examine the book—if not satisfied return in ten days, and we will refund your money. Only a limited number of copies left so act now.

### MOTOR AGE

Book Dept.

C

5 S. Wabash Ave. Chicago, Ill.

They have  
full spiral  
flutes that  
shear metal  
cleanly.

(Pat. Apr. 7,  
1925)



### SMOOTH-KUT (Trade name) Expansion Reamers

Own one of these more efficient Piston Pin Sets. Insist on the name SMOOTH-KUT, beware of inferior imitations. Order through your jobber. Also sold singly.

**Millersburg Reamer & Tool Co., Millersburg, Pa.**





**"IT'S KIND TO  
THE FINGERS!"**

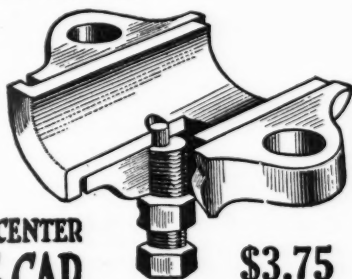
Replacing the regular Ford hood hook (an easy matter of a few minutes), the C-A HOOD HOOK FOR FORDS prevents bruised, "skinned" fingers and wins the heart of the Ford owner. Large grip provides ample finger room and is set at a convenient angle. Handsomely nickel-plated—good looking. Holds hood down firmly. Furnished with attractive display card on which 12 Hooks are mounted. List price, 75c for set of two.

**ADJUSTABLE BEARING  
COMPANY, INC.**  
Dept. 401  
BRAZIL, IND.

## AND THAT'S WHAT REALLY COUNTS!

AS far as we can learn, no repairman is in business just for health or recreation. It's PROFIT he's after and he knows saving time and expense means bigger profits. There you have one of the reasons for C-A ADJUSTABLE BEARING successes. Saves time by enabling you to correct Ford crankshaft end-play WITHOUT REMOVING THE MOTOR—think of the reduced labor costs! Saves money because it's inexpensive. Simply drop oil pan to install or adjust. Delays development of end-play by assuming half the thrust. Banishes the many troubles that come from end-play.

The C-A ADJUSTABLE BEARING is just as good a proposition for the dealer as for the repairman, because the Ford owner is quick to see its advantages. WRITE TODAY for further information.



**\$3.75**

**ADJUSTABLE CENTER  
BEARING CAP**



## Better to Stock— Easier to Sell

—because it is attractively boxed in hundred foot lengths with the size, type, etc., clearly marked on the side. Packed this way you'll find it much more convenient to order, to stock, and to sell.

A complete line of GOODRICH-LENHART Cable will permit you to service practically every car in use with minimum stock.

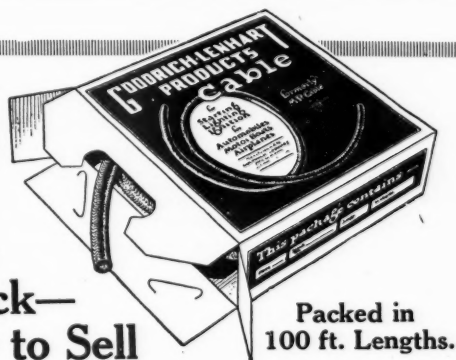
It is supplied in standardized sizes and types for starting, lighting, ignition and radio use. You can absolutely rely on its quality.

Write us for descriptive list with prices

**The Goodrich-Lenhart Manufacturing Co.**  
Hamburg, Pa.

**GOODRICH-LENHART  
PRODUCTS**

STARTING — LIGHTING — IGNITION — RADIO



Packed in  
100 ft. Lengths.

# A look at his stock records convinced Daly that he was *passing up a bet*

TOM DALY was another dealer who claimed fan belts were too small an item to bother with. He only carried them because he had to—until we got him to check up his stock record to see how many he sold last year.

The figures opened his eyes. They showed him Graton & Knight Belts were selling easily and steadily. That they kept moving even without being displayed and without any sales effort.

Today Daly gives his Graton & Knight Belts a chance to show what they really can do in a sales way. He uses the handy display rack that is an invitation to buy. With our *quick turnover system* he carries endless belts for the more popular cars only. Roll belting, which can be cut to fit, for the others. Less stock—smaller investment—increased returns.

Graton & Knight Fan Belts are made of tough, long-wearing leather, tanned to resist oils, dust, water and heat. Grip tightly at low tension. Easy on bearings. Stay put. In any type—Flat, "V" or Link "V"—they guarantee service that pleases your customers.

Send in the coupon and let us show you how to make your fan belt business increasingly profitable.



## GRATON & KNIGHT

Standardized  
**LEATHER BELTING**

MAIL ME TODAY

THE GRATON & KNIGHT MFG. CO., Worcester, Mass., U. S. A.  
Send fan belt information: 101-G

Name.....  
Company.....  
Place.....

Prices, quality for quality, 5 to 10% lower than the field  
Tanners—makers of belts, straps, packings, fan belts, lace leather, etc.

*The Original*  
**Bosch**

Franchise details for selling ORIGINAL BOSCH Automotive Equipment will be sent to any Distributor, Dealer or Service Station on request.

ROBERT BOSCH MAGNETO CO., Inc.  
109 West 64th Street New York, N. Y.



ORIGINAL BOSCH units bear the full name, Robert Bosch, and the trade mark shown at left. These are the identifications of Bosch quality—famous since 1887.

## Red Cat Heaters

Made for  
DODGE FORD  
CHEVROLET OVERLAND  
HUDSON STAR  
ESSEX

Let Red Cat boost winter profits. Gives summer comforts all winter. More winter driving—more accessory sales. See your jobber.

G. A. ROTH MANUFACTURING CO., Hastings, Neb.



A KLEAN-RITE Auto Laundry Franchise Is a Big Money-Maker

Write for a copy of our booklet on "The Business Possibilities of An Auto Laundry." It contains valuable information. Sent free upon request.

KLEAN-RITE AUTO LAUNDRY CO.  
1710 E. 75th St., Chicago



## SMOKELESS CARS DRY PLUGS

Guaranteed with  
MEGSON RINGS  
4 years' tested service  
Your jobber—at once  
or write direct

Megson Piston Ring Co.  
807-11 Flatbush Ave., Brooklyn, N. Y.

## L & S VIBRATION ELIMINATOR

(PAT. PENDING)

makes OVERLAND FOURS quite  
*Vibrationless*

MAKE US PROVE IT—WRITE

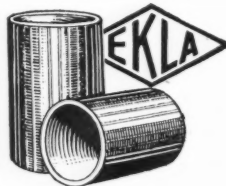
LA MERE & SARDESON, INC., Mfrs.  
1900 CENTRAL AVE. — MINNEAPOLIS MINN.

## Kawneer

SOLID COPPER  
STORE FRONTS

Write for Special Book Garage Front

THE KAWNEER CO., 2224 Front St., Niles, Mich.



## Rubber Tubing for the Trade

EKLA radiator hose—All-Rubber or Cloth-Inserted, tire pump hose and windshield wiper tubing, all in standard lengths, will show you better profits and your customers better service. Insist on EKLA Brands when buying these items.

THE ECLAT RUBBER COMPANY  
Cuyahoga Falls, Ohio

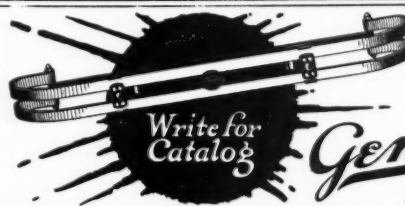


## GATES VULCO

Fan Belts and Radiator Hose

Made By

*The World's Largest Makers of Fan Belts*



Completely Gemco made, the big selling line  
GEMCO MFG. CO.  
760 S. Pierce St.  
Milwaukee, Wis.

**BUMPERS**

## Watch for the Crosley PUP!

*"It's a Sky Terrier"*

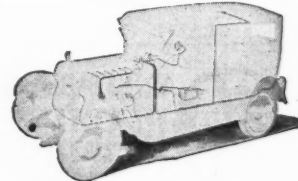
THE CROSLLEY RADIO CORPORATION

Cincinnati, Ohio

Powel Crosley, Jr., President

*Packard*  
**Cable**

The Packard Electric Co.  
Warren, Ohio



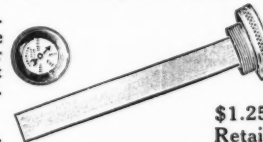
AIR COMPRESSORS—HOISTS—TROLLEYS—CRANES

Curtis Pneumatic  
Machinery Co.

1527 Kienlen Ave.  
St. Louis, Mo.

## A Quick Seller and a Tremendous Market

FORD, CHEVROLET and OVERLAND owners buy this TASCO Gauge on sight. It screws in place of the filler cap—saves "measuring" the gas—and it is guaranteed for the life of the car. They sell all the time.



THE AKRON-SELLE CO., Akron, O., U.S.A.

\$1.25  
Retail

*Hycor*  
**Brake Lining**  
FOLDED AND STITCHED  
HYDRAULIC COMPRESSED

Millions of feet annually installed as factory equipment

THE MANHATTAN  
RUBBER MFG. CO.  
PASSAIC, N. J.

**PETRY**

N. A. PETRY COMPANY, Inc.,

Tuning-up Valve—  
Dash Control or Spring  
Type—Easiest to Install  
Dependable in Operation

Philadelphia, Pa.





## CANTON

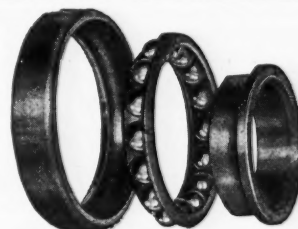
### Portable Crane and Hoist

The purpose of the Canton Portable Crane and Hoist is to make more money for service and repairshop men.

Write for a copy of the illustrated booklet M A describing the outfit. It will show you the way to better profits.

**The Canton Foundry & Machine Co.**  
Canton, Ohio

New York Office—303 East 15th Street



Angular Contact Radial Bearings  
Angular Contact Thrust Bearings  
Thrust Ball Bearings  
"Star" Ball Retainers

**The Bearings Company of America,**  
Lancaster, Penna.

Western Sales Office,  
1012 Ford Bldg.,  
Detroit, Mich.

## There Simply Isn't Any Better Flux Made Than Rubyfluid!



A complete substitute for dangerous acids, Zinc Chloride, Salammioniac and other mixtures commonly used as a flux. Ruby Fluid is quick acting, anti-rusting and is always ready for instant use. Ruby users include the foremost industries of the country. Send for generous Free Sample

# Rubyfluid

COMBINATION  
SOLDERING AND TINNING FLUX

**THE RUBY CHEMICAL CO.**

68-70 McDowell Street

Columbus, Ohio

OVER 1,000 AUTOMOBILE REPAIR SHOPS ARE  
MAKING MONEY WITH

# Simplicity

PRECISION MACHINERY AND TOOLS

Write for Literature, Low Prices and Terms on Simplicity Reborer and Grinder—Valve Grinder—Crank Pin Tool—Re-Seating Cutters and Pilots.

Ask for a "free" demonstration  
in your own shop on one of  
your own jobs.

**SIMPLICITY MFG. CO.**

110 Spring St.  
Port Washington, Wis.

## PORE BLOWN BATTERY PLATES

They help you build better batteries because our special process gives them greater capacity—a strong, unfailing current over a longer period of time. The grids used in Pore-Blown Plates are reinforced at the bottom, where the strain is great. All materials used in the paste are pulverized—not just mixed. Send for our complete catalogue on plates and all battery parts.

**General Storage Battery Co.**  
2005 Locust St. St. Louis



QUALITY—PROFIT—TURNOVER

**American  
Hammered  
Piston Rings**

**American Hammered Piston Ring Company**  
Baltimore, Maryland

**Pump and Tank Headquarters**  
**S. F. BOWSER & CO. Inc.**  
FORT WAYNE, IND.

## RAMCO

Cushion

### INNER RINGS

fit behind piston rings and keep them in perfect contact with the cylinder walls at any motor speed or temperature.

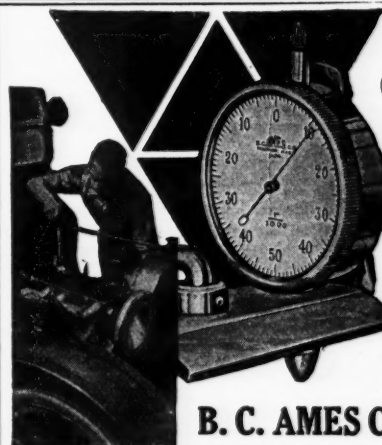
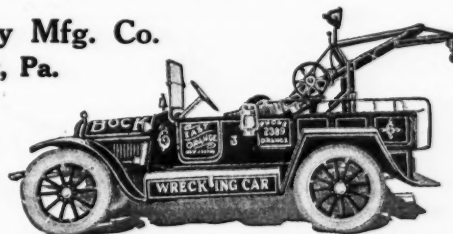
**RAMSEY ACCESSORIES MFG. CORP., ST. LOUIS, MO.**

## Get a Manley

Wrecking Crane. Nothing has been developed to equal it. Nothing will ever supersede it.

Send for complete information.

**The Manley Mfg. Co.**  
York, Pa.



## AMES Jr. CYLINDER GAUGE

With Setting Tool  
Handle

All the time saving  
facts in a glance  
at the dial

**Price \$17.50**

Buy from Your Jobber  
or Send for Folder

**B. C. AMES CO., Waltham, Mass.**



**Thermoid**  
Hydraulic Compressed  
Brake Lining

FROM THICK  
TO THIN  
DOWN TO THE  
LAST PLY  
IT HOLDS

The Money-Making Line—  
**WILLYS-OVERLAND**  
Fine  
MOTOR CARS

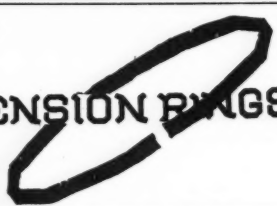
**WEL-EVER**  
"OIL CONTROL" PISTON RINGS  
The Motor Necessity That Has Made Good  
Backed by Seven Years' Satisfactory Service  
**THE WEL-EVER PISTON RING CO., TOLEDO, OHIO**  
Sold most everywhere. If your dealer cannot supply you write us.

**An Amsaboco Product**  
Better Original Entry Systems Stop Your Loss of Profit. Let Amsaboco Products help you—made by American Sales Book Co., Ltd., the largest manufacturer in the world of sales check books and other profit saving systems. Write today for information with no obligation.  
**American Sales Book Company, Limited Elmira, New York**  
Branch Offices in all large cities.

\$5.50 with belt  
  
**The Big Seller in the Ford Pump field—at a new low price.** Get our dealer plan.  
**The Turner Mfg. Co., 31st and Roanoke Rd. Kansas City, Mo.**  
**U-Need-It** ROTARY PUMP for FORDS

**Stop Piston Slap**  
Don't Rebore—G-H Tension Rings stop slap and oil pumping. Make and keep old motors running like new. It's all in the metal—they retain their TENSION.  
**G-H TENSION RING CO., Inc.**  
8 E. Mt. Royal Ave., Baltimore, Md.  
**Stop Oil Pumping**

**G-H TENSION RINGS**



  
**Rie Nle Bearing Blue**  
A marking compound used for determining high spots on bearing surfaces. Covers the surface completely, yet leaves a coat not more than one-thousandth of an inch in thickness.  
**DURKEEATWOOD CO.**  
MINNEAPOLIS, U.S.A.

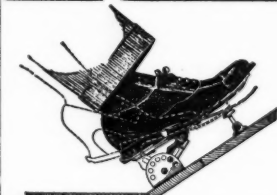
One of the Rie Nle Line

  
**Thirty-seven BRANCHES**  
**AHLBERG BEARING COMPANY**  
321 EAST TWENTY NINTH STREET, CHICAGO ILLINOIS



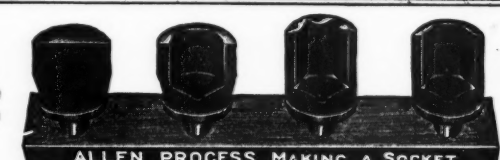
**Magneto Winding Service**  
Finest quality Magneto Windings for all models. No better to be had.  
Send your old cores—We will ship re-wound core. Guaranteed. Exceptional prices. Write for full particulars.  
**Severson Magneto Engineering Co.**  
Toledo, Ohio

**DILL INSTANT-ONS**  
Dust and Valve Cap  
Off or On in 5 Seconds  
**The Dill Manufacturing Co.** **Cleveland, O.**




**The Adams Adjustable Foot Rest**  
Adjusts comfortably and easily to most convenient height for any driver's leg. Foot lies in normal restful, uncramped, safe position. Big, fast seller. Senior, \$3.50. Junior, \$1.25. Ask your jobber.  
**Adams Mfg. Co.**  
Galesburg Illinois

**KISSEL**  
CUSTOM BUILT  
*The Kissel Dealer does not meet competition. He makes others meet it.*  
**KISSEL MOTOR CAR CO., Hartford, Wis.**

**Cold-Drawn Sockets**  
  
**ALLEN Wrench Sets**  
**ALLEN PROCESS MAKING A SOCKET**  
**The Allen Manufacturing Company, Hartford, Conn.**

**The SKINNER OIL RECTIFIER**  
More than a new accessory, a necessity. Makes one filling of oil good for 2500 miles or more. Prevents crankcase dilution. Prevents oil pumping. Improves lubrication, thus saving fuel.  
Profit by the interest this device is creating among car owners.  
Write for complete details.  
**THE MASTERCRAFTS CORP.**  
Brattleboro Vermont

**Cushers**  
**CHICAGO ROLLER SKATE CO.**  
Manufacturers of Screw Machine and Automotive Products  
Cushers Sales Dep't, Fulton-Dean Co.  
332 South Michigan Avenue, Chicago

  
**The Cooper CUT-OUT**  
ENGINE TESTER AND CARBON OUTLET VALVE  
Dependable. Certain. Easily installed. A big seller all the year round.



Made in many sizes to meet any and all requirements in garage, tire repair shop and filling station. Six types: Two Stage, Single Stage, Air Cooled, Water

Cooled, Stationary, Portable. Our low prices enable you to get a Compressor for a small investment. Send for literature.

The United States Air Compressor Co.

5304 Harvard Ave.

Cleveland, Ohio

**LINCOLN**  
FOR ALL CARS—\$15 to \$40  
**SHOCK ABSORBERS**

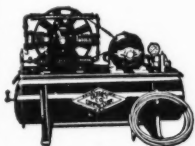
**CRANE**

Wheel and Gear Pullers

**CRANE PULLER COMPANY**

South Deerfield, Mass.

U. S. A.



Model G-16

Quincy Silent Air Master

Manufactured by

Quincy Compressor Co.

Name Formerly Wall Pump & Compressor Co.  
217 Maine Street, Quincy, Ill., U. S. A.

**Pedrick**  
HEAT-SHAPED  
PISTON RINGS

Heat shaped to insure perfect roundness, sold at almost the price of a snap ring.  
Wilkening Mfg. Company  
15th and Mt. Vernon St., Philadelphia, Pa.

**Prest-O-Lite**

STARTING AND LIGHTING BATTERIES

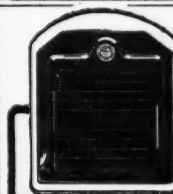
Powerful — Dependable — Economical  
Backed by a World-wide Service Organization

THE PREST-O-LITE CO., Inc., Indianapolis, Ind.

New York

San Francisco

In Canada—Prest-O-Lite Co. of Canada, Ltd., Toronto, Ont.



Any Motor Will Run Better With A  
**WINTERFRONT**  
TRADE MARK REG. U.S. PAT. OFF.

Splendid Profit, No Servicing

There is only one Winterfront. It is made by Pines. Distributors have stock for immediate delivery. Write factory for name.  
Pines Winterfront Co., 412 N. Sacramento Blvd., Chicago.

Here is a new necessity and convenience for any make of closed car and so low priced every owner is a prospect. This

**\$1.50**

**CLOSED CAR VENTILATOR**

Adapted to any make of closed car. Prevents moist windows, gases, and keeps interior always well ventilated winter and summer. Write today.

Lewis Manufacturing Company, Inc.

219 Orchard St.

Sharon, Pa.

**MONOGRAM**  
ORIGINAL  
SELF LOCKING RADIATOR CAP

THE KINGSLEY-MILLER CO.

Successors to  
(General Automotive Corporation, Chicago)  
600 West Jackson Boulevard Chicago

**ZENITH**  
CARBURETOR

More  
Power  
Less  
Fuel

Zenith - Detroit Corporation, Detroit, Mich.

### CLASSIFIED ADVERTISING

#### PARTS

#### HOUSE OF A MILLION AUTO PARTS

The largest stock of new and used car and truck parts in the world. We have everything. Always mention model and serial number in order. Write us. All inquiries answered promptly.

DOUGLAS AUTO PARTS CO., INC.  
2003-5-7-9 South State St., Chicago, Ill.

#### AUTO PARTS

SAVES 50% to 75% ON ALL CARS

New and Used Gears—Springs and Axles—Cylinders—Motors—Rear Systems, etc. Wire or Write

INDIANA AUTO PARTS CO.  
316-18 NO. ILLINOIS ST. INDIANAPOLIS, IND.  
LARGEST CAR WRECKERS IN INDIANA

#### DOWMETAL PISTONS

Lighter, stronger, and longer wearing than aluminum or iron. Can be fitted with bronze bushings in the wrist pin holes same as in iron pistons. Dowmetal has no permanent growth. The expansion is little more than iron.

SEND FOR PARTICULARS

LAMBERT & MANN CO.  
Cylinder and Crankshaft Grinding

215-21 N. Wood St. CHICAGO Phone West 4918

#### PATENTS & PATENT ATTORNEYS

#### PATENTS

Secured, Trade-Marks and Copyrights Registered  
Prompt service. Highest references. Established 1884  
Milo B. Stevens & Co. Registered Patent Attorneys.  
Offices: 639 F St., Washington, D. C.  
10 Monadnock Block, Chicago, Ill.

Attorney-at-Law and Solicitor of Patents  
C. L. PARKER

Formerly Member Examining Corps, United States Patent Office

American and foreign Patents secured. Searches made to determine patentability and validity. Patent suits conducted. Pamphlet of instruction sent upon request.  
McGill Building, WASHINGTON, D. C.

#### FOR SALE

FOR SALE—HB-8 hour Battery Charger. Guaranteed as good as new. 200 amps., 60 cycle, 220 a.c. Price \$275.00.  
Charles Iehl, Gallup, New Mexico.

#### BUSINESS OPPORTUNITIES

FOR SALE—One of the best equipped garages in Minnesota. Three main highways pass the door. Equipment consists of Machine Shop, Battery and Electrical Shop, Welding and Forge Shop, Accessories, Tires, Oil and Grease. Distributor for one of the best make of cars for County. Distributor for Stromberg Carburetor, Gabriel Snubbers and Willard Batteries. Sickens cause for selling. Box 6240, care Motor Age, 5 S. Wabash Ave., Chicago, Ill.

FOR SALE—Ford Agency, good county seat town, North Central Kansas. 188 new jobs sold last year. Buildings, stock and all equipment, \$50,000. \$39,000 will handle.  
Drawer T, Lincoln, Kansas.

#### HELP WANTED

SALESMAN WANTED TO SELL INCANDESCENT AUTO LAMPS ON A COMMISSION BASIS. GOOD OPPORTUNITY. WHITE BOX 6239, MOTOR AGE, 5 S. WABASH AVE., CHICAGO, ILL.

*Permanent  
roads are a  
good investment  
—not an expense*

## Battling Your Way Into Town

It was a glorious trip. The setting sun proclaims the day about done.

And now the battle starts. It will be dark long before you reach home.

What a jam! You barely crawl along. You stop. You start. You creep ahead a few yards. Again you jam on the brakes.

Cars! Cars! Cars! Endlessly in front of you, endlessly behind you.

The driver just ahead stops suddenly. You barely miss bumping into his car.

On-coming cars honk an angry warning if you attempt to turn out. The road is too narrow.

Intersecting highways also are jammed with traffic. At every intersection again you wait, doggedly clutching the wheel in silent wrath.

At last, after literally fighting your way over the road, you swing into your own driveway.

Yes, it was a glorious trip, but—

\* \* \*

Don't blame your highway authorities. They are ready to do their part, but they must have your support. Tell them you are ready to invest in more and wider Concrete Highways now.

You know an early start means early relief.

### PORTLAND CEMENT ASSOCIATION

*A National Organization to Improve and Extend  
the Uses of Concrete*

Atlanta  
Birmingham  
Boston  
Charlotte, N. C.  
Chicago  
Columbus  
Dallas  
Denver

Des Moines  
Detroit  
Indianapolis  
Jacksonville  
Kansas City  
Los Angeles  
Milwaukee

Minneapolis  
Nashville  
New Orleans  
New York  
Oklahoma City  
Parkersburg  
Philadelphia

Pittsburgh  
Portland, Ore.  
Salt Lake City  
San Francisco  
Seattle  
St. Louis  
Vancouver, B. C.  
Washington, D. C.

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# Gill



## Has Made Its Mark

In the few months that GILL Economy Oil Piston Rings have been on the market, they have established themselves firmly in the good graces of dealers, repairmen and users alike.

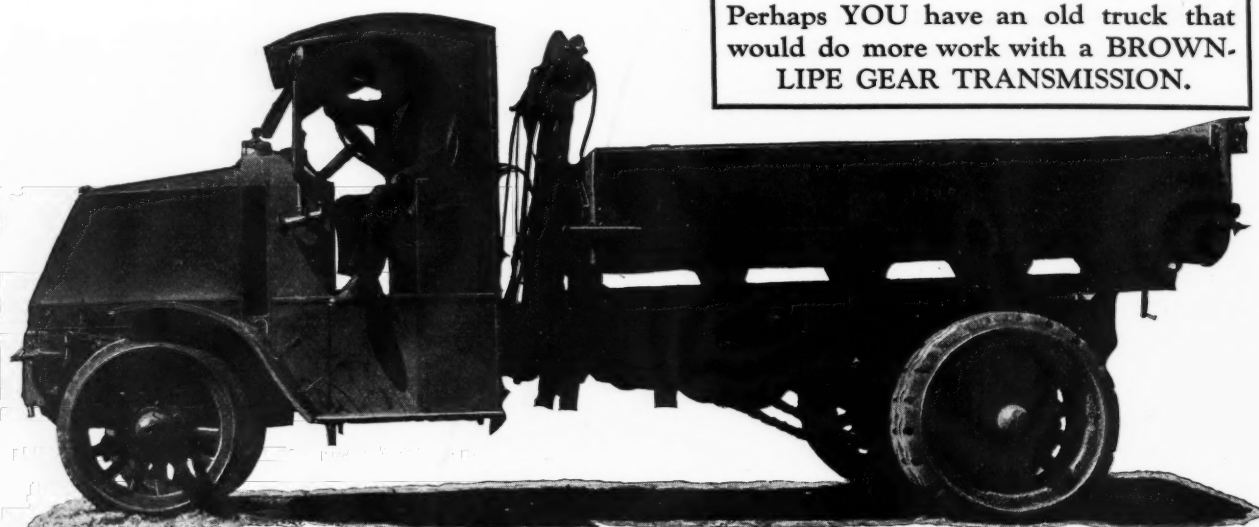
Today they are recommended and used along with other GILL Products of Quality by service men throughout the country.

If you are not familiar with this newest member of the GILL group, ask us for details and descriptive literature. The Economy Oil Ring can help make good profits for you.

It is another GILL success.

*Send for the new Gill window trim and complete catalog.*

**Gill Manufacturing Co.**  
8300 South Chicago Ave., Chicago, Illinois



Perhaps YOU have an old truck that would do more work with a BROWN-LIPE GEAR TRANSMISSION.

## Long-Used Truck Becomes Fleet Leader with a BROWN-LIPE TRANSMISSION!



by Philip Bremer, Truck Owner  
Rochester, N. Y.

"I was up against it last year. I had a 1918, 3-speed, 5-ton truck. The fleet I worked with included several new 1925 models of the same make with 4 speeds. Invariably they beat me to the dump. My services were not in former demand.

"I figured on buying a new truck, and found it would cost me \$4,000 in addition to my old one. I was worrying about this when a friend suggested I see the Genuine Parts Sales Inc., of this city. For \$506 they installed ahead of the old transmission, a BROWN-LIPE GEAR Model 60 3-speed Supplementary Transmission.

"Now things are changed. I may be second or third in line for loading, but I'm first at the dump. With my Brown-Lipe Transmission in direct, I have my original three speeds, and the high and low ranges each gives me three more forward and one more in reverse, making nine speeds going and three backing up.

"The low range lets me pull through where the other fellows get stalled. In the high range, I can run away from them on the road. A touring car paced me one day and I showed a 27-mile gait, loaded! The boys now bet on me against any other 5-tonner that comes along.

"I pull a third more tonnage a day than ever before and haven't had a bit of trouble. No sir, I wouldn't take that Brown-Lipe Supplementary Transmission off for \$1,000. I'm always in demand now!"

*Philip Bremer*



If you know anyone with a problem like Mr. Bremer's, we can help him. Complete mechanical details about the Bremer installation sent free upon request.

**BROWN-LIPE GEAR CO. — Syracuse, N. Y.**

SAN FRANCISCO

CHICAGO

DETROIT

NEW YORK

LONDON, ENG.



# Still another addition to the FAST SELLING LINE

*of New Marmon Standard Closed Cars  
at exactly open car price*



## The New Marmon 2-Passenger Coupe *at exactly open car price*

The New Marmon Standard Closed Cars at exactly open car prices have struck such a responsive chord in the hearts of fine car buyers and have reflected themselves so unmistakably in the profits of Marmon distributors and dealers, that Marmon from time to time has added new models, now offering a line of *four* standard closed cars at exactly open car price.

NORDYKE & MARMON COMPANY • Established 1851 • Indianapolis, Ind.

*The*

NEW MARMON

*"It's a Great  
Automobile"*



## What AC Means to the Dealer

### AC Spark Plugs



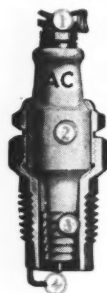
More than 80% of all the cars produced in this country, Fords excluded, are factory equipped with AC Spark Plugs. Among these cars are:

Apperson  
Buick  
Cadillac  
Case  
Chandler  
Chevrolet  
Chrysler  
Cleveland  
Davis

Dodge Brothers  
Durant  
Essex  
Flint  
Hudson  
Hupmobile  
Kissel  
Marmon

Maxwell  
Nash  
Oakland  
Oldsmobile  
Paige  
Star  
Vellie  
Westcott  
Wills Sainte Claire

### AC 1075 for Fords



One glance tells the whole story — Why the AC 1075 is an especially good plug for Fords—Here are its features:

- 1 Spring Terminal Clip
- 2 Heavy Body Porcelain
- 3 High Temperature Fins—Patented Carbon-proof Porcelain
- 4 Heavy Electrode Forms Natural Oil Drain.

Dealers who carry a good stock of AC products can build a profitable business. The demand is assured because of their use as car equipment.

\* \* \*

Backed by strong advertising.

\* \* \*

They afford you the margin of profit you should get.

AC Spark Plug Company, FLINT, Michigan

Makers of AC Spark Plugs—AC Speedometers—AC Air Cleaners

AC-SPHINX  
Birmingham  
ENGLAND

AC-OLEO  
Levallois-Perret  
FRANCE

### AC Speedometers



#### The Model for Fords

Miles per hour, miles per trip, total mileage—it tells them all.

Simple direct drive is a big improvement over previous types of drives as it does away with the swivel joint.

Complete with all attachments and once installed is a source of constant satisfaction. The cost is surprisingly low—\$15. (\$21.00 in Canada.)

That AC Speedometers can be depended upon for trouble-free operation, is evidenced by the fact that they are original equipment on such cars as Buick, Cadillac, Chevrolet, Chrysler, Gray, Maxwell, Oakland, Oldsmobile and GMC Trucks.

### AC Air Cleaners



Easily installed as it connects directly to the carburetor.

Once installed it requires no attention, having no moving parts to get out of order, and its high permanent cleaning efficiency keeps down repair bills.

Comes complete with all attachments and is reasonably priced—\$5.00 to \$7.00 (\$7.00 to \$10.00 in Canada) depending on the size required.